The Goulstonian Lectures
ON
SOME ABNORMAL PSYCHICAL CONDITIONS IN CHILDREN.

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LECTURE II.[1]

Delivered on March 6th.

MR. PRESIDENT AND GENTLEMEN,—In my first lecture I drew your attention to some points in the psychology and development of moral control in the normal child and then considered the occurrence of defective moral control in association with general impairment of intellect; before going further it may be well to review briefly the points which have been raised. Moral control, we saw, is dependent upon three psychical factors, a cognitive relation to environment, moral consciousness, and volition, which in this connexion might be regarded as inhibitory volition. Moral control, therefore, is not present at birth, but under normal psychical conditions is gradually developed as the child grows older. The variation in the degree of moral control which is shown by different children at the same age and under apparently similar conditions of training and environment suggested that the innate capacity for the development of such control might also vary in different individuals.

Proceeding, then, with our inquiry as to the occurrence of defective moral control as a morbid condition in children we considered the occurrence of this defect in association with idiocy or imbecility and saw that whilst defect of moral control is often associated with general impairment of intellect there is no constant proportion between them; the child with only slight intellectual impairment may show far greater moral defect than a child with more impaired intellect. There appeared to be no grounds for connecting any particular type of imbecility specially with moral defect, and beyond the fact that such physical changes in the brain as produce general impairment of intellect may also produce defect of moral control, it was impossible on the clinical evidence available to attribute the moral condition exclusively to any particular structural abnormality. Whatever the cause of the defect may be, it seems clear that in these cases there is a morbid limitation of the capacity for the development of moral control, and the fact that this limitation is not necessarily proportionate to the limitation of capacity for general intellectual development seems to make it at least conceivable that the mental processes involved in moral control may be affected altogether apart from those concerned with more general intellectual acquirements. I propose now to bring forward evidence that this isolated affection of moral control does actually occur.

MORBID DEFECT OF MORAL CONTROL ASSOCIATED WITH PHYSICAL DISEASE.

In considering defect of moral control apart from general impairment of intellect it must, I think, be recognised that the morbid character of such a defect may be shown not only by its degree as compared with our empirical and arbitrary standard for the age and by its non-correspondence with the influences of environment, but also by the fact that the failure of moral control is entirely at variance with the previous habit, if I may so say, of the particular child; and this is a point of some practical interest, for, as we shall see, in some cases comparatively trivial manifestations which, if they were habitual in the child, would be regarded as quite within the limits of normal variation, assume a considerable importance as premonitory symptoms of physical disease.

Perhaps the most conclusive evidence of the morbid character of deficiency of moral control in some cases where it is not associated with general impairment of intellect is to be found in its close relation to physical disease, which I shall now consider. Naturally one turns first to cases with gross lesions of the brain, for here, if anywhere, we should expect that physical disease might cause alteration of moral control. Unfortunately for the purposes of my argument, where the lesion causes any psychical change, it is so apt to produce also some general disorder of intellect that many such cases—for instance, cases of infantile hemiplegia—fall rather into the group which I have already mentioned than into that now under consideration. There are, however, a sufficient number in which the moral alteration is unaccompanied by any general disturbance of intellect, to establish the fact which I wish to insist upon.

Cerebral tumour.—A girl, aged 10 years and nine months, was under my care about six months with symptoms of pontine tumour, paralysis of the sixth and seventh nerves on the left side, and paresis of the right arm and leg, only occasional headache, and then not severe, no vomiting, no fits, and no optic neuritis up to a few weeks before death. The child's general intellectual power seemed unimpaired up to the last time I saw her, about a fortnight before she died; but about two or three months after she first began to ail (the whole duration of the disease was about nine months) a change was noticed in the child; she had previously been good-tempered and obedient, she now became extremely passionate, if the food at meals was not exactly to her liking she would fling it across the table and the slightest thwarting of her wishes by her seven-year-old sister produced an outburst of rage in which she would attempt to strike her sister on the head; she was extremely self-willed and the mother repeatedly complained of the difficulty of managing her. This child was at the same time extremely emotional, a point to which I shall refer again. The necropsy showed a new growth infiltrating the pons, but more on the left side than on the right; there was some flattening of the cerebral convolutions and the whole cortex was unduly hyperæmic. The ventricles were little if at all dilated; there was no trace of new growth above the level of the pons.

Very similar was the case of a boy, aged seven and a half years, who had symptoms of intracranial growth, occasional occipital headache, fits involving chiefly the right side, vomiting and optic neuritis, with some weakness of the left external rectus and exaggeration of the knee-jerks. 12 months after the first onset of symptoms the mother noticed a change in the boy's behaviour, without any general disturbance of intellect, he became extremely passionate, the least irritation—for example, his brother accidentally and very gently pushing against him—threw him into a passion in which he clenched his fists and screamed; these outbursts occurred many times a day, sometimes he would attack his brother in his passion; he had also become very disobedient, whereas previously he had been a good-tempered and obedient child.

Infantile hemiplegia may, as in a case I mentioned in my previous lecture, cause moral deficiency in association with general intellectual impairment, but in the following case it affected only the moral condition. A boy, aged about four and a half years, had left hemiplegia dating from the age of 20 months; he was an attractive child, very intelligent, and talked brightly; he was, however, extraordinarily spiteful, for instance, if knives or forks were available he would suddenly throw them at people when they were not looking, and the mother was afraid that he might do some serious injury; whilst walking in the street he had attacked with a stick children who were quite strangers to him; he had been sent to school, but was quickly sent home again as too spiteful to be allowed with other children; he was extremely passionate and if crossed in any way threw himself on the floor and screamed. Corporal punishment had been tried at times but the mother said that it made not the least difference in the boy's behaviour.

Meningitis, as is well known, is sometimes ushered in by symptoms like mania but without any such profound intellectual disturbance; loss of moral control may be an early, if not the earliest, symptom. For instance, a girl, aged about 10 years, was reported by her school teacher to have unaccountably changed from an obedient well-behaved child into an extraordinarily disobedient and unruly one. About a week later she became drowsy with headache and other symptoms, which pointed unmistakably to tuberculous meningitis, from which she died. In another case a boy,

[1] Lecture I. was published in THE LANCET of April 12th, 1902, p. 1008.

aged four years, after recovery from posterior basic meningitis became ludicrously passionate, beating himself in fury if meals were not ready directly he wanted them.

Epilepsy also has a close relation to moral deficiency. As I have already pointed out, the imbecile with epilepsy is apt to be distinguished by his lack of moral control; as I shall show later, convulsions or epileptic attacks not infrequently figure in the early history of children who in later childhood come under observation for defect of moral control. Moreover, quite apart from any general impairment of intellect, the approach of an epileptic seizure is preceded in some children by a definite moral change. A girl, aged 10 years, who had had frequent fits since the age of 14 months, was always troublesome to manage, self-willed, disobedient, and passionate; on one occasion at the age of six years on receiving some new clothes which did not please her she flew into a passion and tore them up. These characteristics were noticeably increased for one or two days before the onset of an epileptic attack, the child at such times becoming extremely disobedient and difficult to manage. Another child, a boy, although much younger (just over three years old), may serve to illustrate the same change. He had had fits for the previous four months; their onset was said to be preceded by extraordinary excitability and spitefulness, which began two or three days before the fit, and at such times he had bitten people, and, indeed, bit a baby, aged 11 months, sufficiently severely to draw blood. Neither of these children who suffered from epilepsy showed any general disturbance of intellect.

Head injury in a boy, aged six and a half years, appeared to be the cause of a temporary loss of moral control. The boy fell down some steps, striking the left side of his head and producing a large hæmatoma which covered the whole of the parietal bone. Within a few days after the fall it was noticed that the boy's behaviour was "different altogether," so the mother said, from what it had been previously. He had now become spiteful, passionate, disobedient, and destructive. When given bread-and-milk which he did not want he flew into a passion and knocked it off the table; when told to do something against his wishes he struck his mother in the face; he had also struck the baby only nine months old; and when a little boy and girl of whom he is usually very fond came into the room he threatened that if they did not go away he would throw his toys at them, which he forthwith did; when told that his little brother, of whom he is particularly fond, was going away from home he said he was glad to get rid of him; he also tore up books and threw them in the fire. He showed no general disturbance of intellect, unless one remark made on the fourth day after the injury can be taken as evidence of a delusion. He said that his toast at breakfast was "poisoned" and he would not eat it; but there was no other evidence of any delusion, and it seems doubtful whether this remark was not rather an exaggerated expression of dislike than an actual delusion.

But it is not only with physical disease or injury directly affecting the brain, but also in relation to physical disease of more general nature, that loss of moral control is seen.

Typhoid fever in children, as in adults, is sometimes followed by a temporary insanity, but without any such general disorder of intellect the moral character may undergo a definite alteration. A girl, aged 10 years, was in the Children's Hospital suffering from typhoid fever which was severe and complicated by otitis media. For several months after this the child, who had previously been a well-behaved child, was extremely disobedient and unruly; she was spiteful and passionate. Her general intellectual condition appeared to be normal. The moral alteration persisted for some months, after which the girl gradually regained her former condition.

Diphtheria was followed by a similar change in a boy, aged five years and two months, who after the acute illness seemed nervous and excitable. He became extremely passionate; he threw a knife at someone who had crossed his wishes and on the slightest provocation he would scratch, kick, or bite; he also became disobedient and mischievous and a few days before I saw him he deliberately set fire to some clothes, apparently in a spirit of defiance, having just been warned of the danger. The boy showed not the least general impairment of intellect but there was a history of epilepsy in his sister and probably also in his uncle and aunts.

Scarlet fever in a case recorded by Dr. Hack Tuke[3] had a similar sequel. "A gentleman's son, a boy of five years old, favourably circumstanced in his moral surroundings, had an attack of scarlet fever. He recovered, but his moral character had undergone a remarkable change. Instead of being a truthful, he became a very untruthful, lad. For a time he was honest, then he began to take what was not his own without the slightest occasion for doing so. A further stage was reached—he evinced a disposition to injure others." Subsequently as a young man he had to be placed under special supervision to prevent some criminal act. In another case,[3] recorded in America, a girl was normal in every way until seven years old, when she had scarlet fever, with convulsions and delirium. On recovering from the fever she appeared to have lost her moral control. She could no longer be made to obey, she displayed violent paroxysms of passion, she had become untruthful, and when eight or nine years old she showed a marked tendency to sexual immorality. It was specially noted that there was "no intellectual impairment; she was, on the contrary, exceptionally bright." "She keenly distinguished right from wrong and only seemed lacking in the power or will to control herself." It was noteworthy that the father of this child had been melancholic and had committed suicide.

Acute rheumatism seemed to be directly related to moral alteration in a boy, aged nine years, who after an attack of rheumatic fever at seven years of age was ailing with pain in the præcordium and frequent palpitation of the heart; there was no bruit and no obvious dilatation of the heart. These symptoms lasted for some months after the acute onset and about six months after the rheumatic fever the boy, who had previously been a good-tempered, tractable child, became violently passionate; in his rage he would attack anyone with extreme fury. These attacks occurred once or twice a week, generally after some slight provocation. He was spiteful and recently had shown a disposition to kill himself. The boy had a furtive look, and whilst in the hospital he was found one morning with a draw-sheet twisted round his neck, but otherwise he showed nothing abnormal. All these symptoms gradually diminished, but at about 12 and a half years of age he had rheumatic fever again and after this again became more spiteful, taking pleasure apparently in wantonly inflicting pain on his brothers and sisters and laughing immoderately when he had succeeded in hurting them; he was also at this time extremely passionate, clenching his hands and turning pale with rage, and then pouring forth abuse. He got on well at school and seemed to be perfectly normal in intellect apart from his lack of moral control. He had convulsions during his second year and his mother had epileptic attacks for two years, from 16 to 18 years of age. Dr. Savage has referred to a similar occurrence,[4] a severe attack of rheumatic fever being followed by moral perversion.

In all these cases it seemed clear that there was a close relation between the psychical and the physical conditions, that both in fact were morbid manifestations, and in none of the cases was there evidence of any general disturbance of intellect. So that here we have, I take it, instances of a morbid alteration of moral control without any general impairment of intellect. In almost all these cases the moral change consisted in a loss of already acquired moral control; but had the physical disease occurred at an earlier age, before the development of moral control, it seems only reasonable to suppose that the moral development would have been arrested or delayed; and, indeed, this appeared to have happened in the case of infantile hemiplegia to which I have referred. This point is of some importance in its bearing on the etiology of the group of cases which I shall consider later.

The loss of so complex a mental function as moral control in children with physical disease is no doubt in part referable to its recent development, and therefore "unstable equilibrium," if one may so say; and one might compare with this the loss of speech which sometimes occurs in very young children as the result of any illness whilst speech is still in process of acquirement, and we must remember that moral control is later and much more gradual in its development than speech. This, however, is only a comparison, and whilst it seems probable that some of these cases do indicate such a retrograde change to the conditions of an earlier age, in others there would seem rather to be a morbid perversion of one or other of the

[3] Journal of Mental Science, July, 1885, p. 178.

[3] American Journal of Insanity, October, 1883.
[4] Journal of Mental Science, July, 1881.

mental processes concerned in moral control; in some of them there is evidently an insufficiency of inhibitory volition, as may be seen from the general excitability and emotionalism which accompanies the moral failure; in others there would seem to be a perversion of moral consciousness, which one might compare with the perversion of appetite, the craving for disgusting substances, such as earth, tallow, &c., which one sometimes sees in children who are out of health and who lose their unnatural craving when their general health improves. Whatever may be the psychical alteration in these cases they at any rate emphasise the point upon which I have already insisted—namely, the differentiation of moral control from other mental functions, albeit dependent upon the same fundamental processes of mind activity, and the differentiation, as we have now seen, is sufficient to allow of a morbid diminution of moral control without any impairment—at any rate, recognised impairment—of those other combinations of mental processes which are involved in general intellectual development.

So far, then, we have seen, not only that defect of moral control may be the result of congenital limitation of the capacity for its development by some morbid condition of the brain dating from antenatal life, but also that it may be due to arrest or delay of its development by physical disease occurring in infancy, and, further, that after there has already been considerable progress in its development it may be lost to a greater or less degree as the result of physical disease, particularly lesions of the brain and certain febrile conditions.

DEFECT OF MORAL CONTROL AS A MORBID MANIFESTATION, WITHOUT GENERAL IMPAIRMENT OF INTELLECT AND WITHOUT PHYSICAL DISEASE.

I turn now to the question whether similar morbid failure of moral control may not occur in children without any general impairment of intellect and without evidence of gross lesion of the brain or any more general physical disease. That moral alteration may occur as a symptom of insanity in adolescents and adults is well known, and the occurrence during adolescence of more limited psychoses affecting only the moral qualities has been pointed out by Dr. Clouston. But the period to which I am referring is the period of childhood—which, if one includes infancy, extends from birth up to the age of puberty—and this, as I have already said, is the period in which moral control makes its first appearance and is gradually developed. At what age its development ceases it would be hard to say, but there can be no doubt that its most active development is in the period of childhood—from non-existence at birth up to a varying but large measure at puberty. No doubt in the years that follow puberty and which make up the period of adolescence with new and more permanent relations to environment moral control attains to a fuller degree, but its development at this period is rather the widening and strengthening of an already present function than the evolution of a new one as we see it in the infant and the young child. If, therefore, defect or delay may occur in the development of moral control apart from the associations which have been already considered it is in this earlier period that one would naturally look for its incidence. Moreover, if in adolescence instability of moral control is related to the growth and changing conditions of that function, as has been suggested, then *a fortiori* in childhood one would expect to meet with disturbances of the newly acquired function as well as failure in its development.

In considering deficiency of moral control in children apart from general impairment of intellect and apart from physical disease we are met at once by a grave difficulty. On what grounds are we to decide whether the lack of moral control is the manifestation of a morbid condition? As I have already pointed out, some range of variation is the natural outcome of differences of environment, using that term in its widest sense; but, granting this, we must also admit that with conditions of environment which are as closely as possible identical—for example, in children brought up in the same family with training and general influences apparently in every way similar—there are such wide variations in moral control as seem to point to some difference in the innate capacity for its development. Within certain limits such variation is arbitrarily recognised as normal; at any rate, it excites no suspicion of a morbid mental state, but there are certain children who show so marked a deficiency of moral control that even in large institutions containing some hundreds of children they can be picked out at once as different in this respect from all the others. This excessive degree of the defect, the outrageous character of its manifestations, is one point which, although insufficient as evidence of morbidity when taken by itself, may be important evidence when taken in conjunction with other facts.

A further point is the absence of any correspondence between the deficiency of moral control and the child's training and environment, even when allowance is made for the considerable range of variation which we arbitrarily recognise as normal at the particular age. For instance, when a boy of wealthy family, brought up by high-principled parents, surrounded with every care and refinement, and, moreover, liberally supplied with pocket-money, is expelled from school after school for petty thefts, as has happened in several cases either under my own observation or brought under my notice by others, this in itself is strongly suggestive of a morbid mental state which in almost all these cases is corroborated by other evidence to which I shall refer later. There is also another point in connexion with the manifestations of the moral defect which may have some bearing on the question of morbidity—namely, the oddity, if I may speak thus vaguely, of the child's misdoings in some cases. In his thieving, for instance, there is sometimes a handsome generosity; the child steals, but he does not want or keep for himself what he has stolen: one child pilfered repeatedly at school but on returning home would present his ill-gotten gains most dutifully to his mother, to her great distress. Or he steals but makes no use at all of the stolen property—his theft appears to be the gratification of mere acquisitiveness. Again, in their lying there is sometimes an apparent absence of any efficient motive; their lies are often picturesque inventions which remind one of the romancing which is sometimes shown by perfectly normal children during an earlier period of childhood (at about two to four years of age). I say "apparent absence," for no doubt there is always a motive, if only in self-aggrandisement. In the same connexion must be mentioned the extraordinary failure of punishment to have any deterrent effect in many of these children. In some of the cases to which I shall refer the child would commit the same misdemeanour within a few hours after punishment, although he had shown extreme fear at the time of punishment. The mother of one little girl (the child who showed permanent loss of moral control after scarlet fever) expressed this by saying that when the child was whipped "she seemed to mind it at the time but it never did her the same good it did the other children." But it is not merely to the exceptional degree of the moral defect, or to the unnatural character of the particular misdoing, that we must look for evidence of its morbid character; the antecedents, and, as later events show in some of the cases, the sequences of the lack of moral control, link it on almost indisputably to other morbid mental states. Family history throws no unimportant light on this condition, and the after-events in the career of these children, where it has been possible to trace them, should, I think, make us not merely "wise after the event" but capable of discriminating between those defects which are merely the result of faulty training and environment and those which are, indeed, the manifestation of a morbid condition. I shall refer more fully to these points in my third lecture and also to the very significant association of other psychoses and mental peculiarities with the moral deficiency in some of these children. A further indication of the morbid character of the defect which must also be considered and which is certainly sometimes of importance when taken in conjunction with those already mentioned is the presence of so-called "stigmata of degeneration." As we shall see, peculiarities of physical conformation are often associated with failure of moral control, as in other children they are associated with general impairment of intellect.

So far as my own experience goes the occurrence in children of defective moral control as a morbid condition, apart from general impairment of intellect and apart from physical disease, would appear to be by no means common. The facts and conclusions recorded here refer chiefly to 20 cases which have come under my own personal observation, but even this small number was collected partly by special effort to see such children. My observations have, however, been confirmed by comparison with the notes of a much larger number of unpublished cases, for the use of which I

am deeply indebted to the kindness of Dr. Savage. In almost all these cases medical advice had been sought on account of the moral defect which had suggested to the parents or guardians that there must be some morbid mental condition. Of the 20 cases five were girls and 15 were boys, a disproportion which, I think, is not altogether accidental; at any rate, it would seem from recorded cases that boys are more frequently affected than are girls. The age at the time of observation varied from four years and eight months up to 13½ years. But there was a notable difference in the ages at which the manifestations of defective moral control had first attracted attention. In none of the cases was any such defect noticed until after the age of infancy (the end of the second year), but in three of them the child was noticed to be unusually troublesome through passionateness or spitefulness as early as the third year; in two cases nothing abnormal was noticed until the fifth year, in two probably in the sixth year, in two not until the eighth year, while in others this point was not ascertained. No doubt this difference in the dates assigned for the earliest manifestations is in some degree attributable to differences in capacity for observation on the part of the parents; moreover, one parent would not consider abnormal the early phenomena which to another were suggestive of mental disorder. But after full allowance has been made for these fallacies it seems clear that whilst in some cases the failure of normal control dates from very early in its development, in others an arrest of this development, or perhaps a loss of already acquired control, occurs at a later period of childhood.

The manifestations did not differ in character from those seen in the cases already considered. An extreme degree of passionateness was the most constant feature; but, as in the previous cases, there were in almost all the children other manifestations of defective moral control which will perhaps be shown most clearly by an account of some of the actual occurrences.

The cases fall, I think, naturally into two groups corresponding with differences in the date of the first manifestation of the morbid defect: (1) cases in which there is a morbid failure of the development of moral control; and (2) cases in which there is loss of already acquired moral control. These groups are, in fact, the counterpart of those which we have already considered, where the moral defect was associated in the one case with general impairment of intellect and in the other with physical disease.

Morbid failure of the development of moral control.—At first sight it might appear that the defect in such cases was necessarily congenital in origin, but the history in some of them strongly suggests that it is not always so; it would seem, indeed, that, as in idiocy and imbecility, while the defect may be due to a congenital limitation of the capacity for the particular development—moral in the cases under consideration, general intellectual in the idiot and imbecile—it may, on the other hand, be due to some morbid process occurring during infancy and arresting the development of moral control at a very early stage, as in other children it arrests the general intellectual development and leaves the child an idiot. A boy, aged five years and four months, was sent to me from an orphanage where he had been since the age of two and a half years. There he was thought to be different from all the other children in being of ungovernable temper; in his rage he would scratch and bite and scream. He was also very spiteful and seemed to take a delight in tormenting the other children; he sometimes took away their toys and threw them in the fire and then laughed at their grief, as the teacher said, "most hideously." He was also deceitful but had not been caught stealing. No animals were kept in the home so that there was little opportunity for the display of cruelty, but the other children had complained that he was cruel to such insect life as he could find in the garden. He was a very pleasing child to talk to, and the teacher said that he was "perfectly intelligent." His head measured 20¼ inches in maximum circumference—that is to say, it was slightly above the average; the forehead was narrow and low, there was a marked epicanthic fold, and his palate was rather narrow and high. The rest of his body was well formed. His sister, aged seven and a half years, was in the same institution and showed no abnormal moral defect. The father from his earliest years was extremely passionate, quarrelsome, and jealous; he killed the child's mother, and was then placed in a lunatic asylum. In this case the deficiency of moral control, which was sufficient to mark the child as unique in an institution containing a very large number of children, together with certain, albeit slight, peculiarities of conformation, and the history of insanity in the father, all these are points which seemed to indicate that the condition was a morbid one; and judging from the very early date at which it was present (details of the child's life before two and a half years of age were not obtainable but are of no great importance as the morbid nature of a moral defect is, for the reasons already stated, hardly appreciable at so early an age), one seems justified in concluding that here there was a failure in the development of moral control, and the family history, with its suggestion of heredity, seems to point to a congenital limitation of the capacity for the development of moral control.

As another instance of this morbid failure of development I may quote the case of a boy who from a very early age, indeed almost from infancy, so the mother said, had shown a propensity for stealing. At first he would take food and articles of little value out of the cupboards, but since the age of seven years he had stolen money whenever he had had the opportunity. He was very untruthful and made every effort to conceal his thefts, hiding the stolen property in his boots or even in his stockings. This he had done again and again in spite of severe punishment. When sent on an errand he would appropriate part of the money and explain its absence by saying that there was no change or that he had lost it. When I saw him, at the age of nine years, he was filthy in his habits and frequently passed his fæces in his bed, not because of any morbid inability to control the sphincter, but because it was too cold, so he said, to get out of bed, which he refused to do. He seemed to have no shame whatever for his misdoings, and when caned for it took his punishment silently and sullenly, and no amount of punishment seemed to have any deterring effect. So far as school attainments go, he was reported by his schoolmaster to be an average boy, and there was nothing in the boy's appearance or in his conversation to suggest even the slightest degree of imbecility; but he had a furtive and sullen manner which I have noticed in other children with similar moral defect. On careful inquiry it was evident that in spite of his schoolmaster's testimony he had been backward in his earlier years, he had not learnt to walk until he was two years old, and he talked first at three years old. He had had convulsions twice at the age of 15 months, but none since. There was difficulty in obtaining information as to the family history except that the father had been a disreputable character. The boy had been brought up by his mother and stepfather, apparently with every care and endeavour to train him properly. There seemed to be nothing in the boy's environment to account for his lack of moral control; the father had deserted the mother shortly after the child was born, so that the influence of his example could be excluded.

The next two cases which I shall mention may illustrate the morbid failure of moral development as the result of its arrest by some cerebral disturbance in early infancy. A girl, now aged 13½ years, had been unruly and difficult to manage from her earliest years; she seemed to be lacking in natural affection for her mother, she was untruthful, and she had stolen money which she used for herself. She seemed to have very little idea of obedience and at school was the plague of her teachers. She was sometimes wantonly filthy; for instance, one day she amused herself by spitting all over a shop window; she would expose herself indecently in the streets and was always "running after" the opposite sex, and on at least one occasion was said to have encouraged one of them to indecent or immoral practices with her. This child was slow and backward at school; she seemed to lack power of attention, although the schoolmistress said that she was "quite teachable" otherwise; except in her backwardness at school she might pass for a normal child. This was a tall girl with a dull expression; she had a very narrow frontal region; the maximum circumference of the head was 21½ inches; the palate was very high and narrow. She had never had convulsions, but birth was instrumental and very difficult, the establishment of respiration was much delayed, and there was still evidence of the difficult parturition in very slight weakness of the left arm which had apparently shown Erb's paralysis up to the age of four years. Whilst, however, the asphyxia seemed to be a probable cause for the morbid mental state it was noteworthy that the child's father was of feeble intellect and deserted the mother before the child was born.

Another child, a boy, aged five years, was brought to me with the history that he had been unusually spiteful from the age of two years; he would bite his mother and strike

anyone with a stick in wanton spitefulness; a few days before he was brought to me he had thrown a glass at a child and cut its hand severely. He was also extremely passionate; for instance, on two occasions when put out of the room for being naughty he had taken up a stone and flung it through the window. He frequently stole; after having a good meal he would steal food out of the cupboards; he would also steal purses and hide them, but he did not use the money. He was said to be very quick at school. He read small words well, knew "twice-times" perfectly, and seemed to be quite up to the average in ordinary intellectual attainments, and in this respect passed for a normal child. He was, however, curiously distrait; for instance, in saying "Good-night" he went round the family five times one night, apparently not noticing that he had said it before; and he had done the same with his prayers. He showed also a curious perversion of appetite, almost amounting to "pica," to which I shall refer again in my last lecture. There was no history of insanity in the family, but the child had had a large number of convulsions, together with some illness which was called "compression of the brain," between one month and four months of age. He was rather late in learning to walk (he began at one year and 10 months) and also in learning to talk which he began at two years. His head measured 20½ inches in maximum circumference—that is, about three-quarters of an inch above the average for the age. This child could not have been called backward in school attainments; there was no general intellectual impairment, but none the less the peculiarities to which I have referred pointed to an abnormal mental condition underlying the failure of moral control, and the history of severe cerebral disturbance in early infancy suggests that the moral development had been arrested thereby.

Loss of already acquired moral control.—In this second group, as I have said, the earliest manifestations of moral defect appear at an age when some considerable progress has already been made in the development of moral control: the child who has hitherto been a normally well-behaved, perhaps an exemplary child, shows an unaccountable change of character; the good-tempered, tractable child becomes violently passionate and unruly, the truthful and honest child seems to have lost all sense of honesty, and natural affection seems to have disappeared. And here, again, I would point out that this group probably includes cases which are not altogether similar in character—at any rate, they differ markedly in the course which they run; for whilst in one case the loss of moral control appears to be permanent, if one may judge from a duration of years, in another it lasts only a few weeks or months, and in a third, as I shall show, it would seem to be a recurrent disorder. Whether in any of these cases moral control is fully up to the average standard before the defect attracts attention may be doubtful, but it is clear that the manifestations to which I refer are in marked contrast with the child's previous behaviour.

A boy, aged nine and a half years, has been under my care for the past 12 months. Up to the age of seven years and one month he was a very obedient, well-behaved child, but he was said to have been always rather bad-tempered. He learnt to walk at 18 months, and talked well at two years. He had convulsions repeatedly at the age of 10 months but otherwise he was thought to be a perfectly healthy child until the onset of the present condition. Just after the age of seven years he seemed to alter altogether; he became extremely disobedient, taking little or no notice of commands. He was very self-willed; for instance, on receiving a new hat he refused to wear his old one and, rather than do so, disposed of it altogether, the mother thinks, by burning it, and if he did not like his clothes he would tear them to pieces. He showed also an unnatural cruelty; he was found one day cutting up a rabbit alive with scissors and was already, so the mother said, "smothered in blood." At another time he was found beating chickens with a stick; taken to Sunday-school he was so outrageously unruly and quarrelsome that he had not been allowed to go again, and at day-school he was a continual trouble. For some time past he had pilfered small articles at home and quite recently he had stolen half-a-crown from his mother. On being taxed with these and other misdemeanours he denied them flatly and on being driven into a corner, so to speak, invented the most plausible tales to account for them. Although extremely frightened by corporal punishment he would commit the very same offence almost directly afterwards. When I first saw him he would smear his fæces about the wall of the water-closet and sometimes about his bed, but he had not done this recently. With this history one might expect to see a child of obviously defective intellect, if not an actual idiot, but the facts are far otherwise. He is a bright, attractive little fellow with a pleasing face; his conversation also is bright and intelligent; he is backward in school attainments but his attendance has been very irregular and he shows that lack of attention which is very noticeable in many of these cases and which no doubt accounts to a considerable extent for backwardness in school acquirements. In such a case the degree and persistence of the moral deficiency as shown in the manifestations which I have described, and also the contrast between the present and the previous condition, without any apparent explanation in changed influences or environment—these alone might warrant us in regarding the loss of moral control as the manifestation of a morbid mental state; but here there is confirmatory evidence in the family history: the child's maternal grandfather attempted suicide three times, his great-grandfather was thought to have done the same, the paternal grandfather is now insane, and the mother's uncle died in a lunatic asylum. The boy shows no "stigmata of degeneration," unless the unusual size of the head be considered as such; in its maximum circumference it measured 21¾ inches at the age of eight years and three months. I may add that before this boy came to me he had been seen by three medical men, all of whom were, quite independently of each other I believe, of opinion that, owing to his cruel and dangerous propensities he ought to be placed under restraint in some asylum.

Another boy was brought to me at the age of five years with a history that for two months he had been very excitable and had at the same time become extremely spiteful, throwing things at people apparently in wanton spitefulness and attacking strange children in the street without any provocation; he had expressed a wish one day to "chop his mother's head off with a chopper," and was caught one day in the act of putting the cat into the fire, and on a subsequent occasion he attempted to put it into a copper of boiling water. I saw this boy 18 months later when he was said still to be very excitable and extremely passionate, kicking or striking anyone who offended him. Nine months previously he had hit his mother on the head with a big toy gun because he could not have some trifling thing that he wanted; he was also said to be spiteful to other children. He was untruthful, but his lying was of the purely romantic type, so much so that it was difficult to imagine that the boy intended to deceive. His head was unusually large, measuring 21¾ inches in maximum circumference at the age of six and a half years. He is a heavy-looking but well-grown boy and he is fully up to the average in school attainments. His maternal grandfather had diabetes, one maternal uncle attempted suicide twice, and two other maternal uncles have become confirmed drunkards. The boy's parents are respectable middle-class people and seemed to give the child excellent care.

Of course, without watching such a case for a much longer period one could not be certain that the condition was permanent, but its already long duration with very little improvement suggests that it is so. The same doubt must attach to the case of a boy aged five years and 10 months, who was brought to me on account of persistent stealing and lying. Nothing of the kind had occurred until about five months previously when he brought home two door-keys and said that he had found them. It was proved that he had taken them out of the doors at school. He was severely punished but three weeks later he brought home an inkpot which he presented to his mother, saying that he had found it; this also had been stolen out of a school cupboard. Soon after this he stole a chain from one of his schoolfellows, and when suspicion was aroused by it at home he invented a plausible tale of receiving it in exchange. The stealing had become so frequent when I saw him that it was necessary to search him daily before he left school. The parents were much distressed and had evidently taken unusual pains to train the child aright. The boy seemed perfectly bright and intelligent but he had only learnt to walk at 21 months and did not talk until he was two and a half years old, and then only said single words. There was no family history of insanity or neurosis and the boy showed no "stigmata of degeneration."

In other cases the subsequent history has shown that the

loss of moral control was temporary. For instance, in a girl, aged four years and three months, nothing abnormal was noticed until the age of four years and then almost suddenly she became so passionate that she was brought to the Children's Hospital with the idea that there must be some mental disorder. The least thwarting of her wishes would produce an outburst of rage in which she would tear her clothes and fling china or anything near down upon the ground, and she would scratch or bite anyone who offended her. Sometimes in her rage she would bang her head against anything near and twice she had been sent home from school for fear she should injure herself. These manifestations lasted for nearly four months and then ceased. She is now, five years later, not a good-tempered child but she shows no abnormal defect of moral control. She is fully up to the average in school attainments; but her palate is extremely high and narrow and she shows marked fidgety, almost choreiform, movements such as Dr. Warner called "microkinesis"; the mother is also a very nervous woman and says that she has frequent twitchings in her limbs and face; the child's brother has recurrent outbursts of rage and excitement to which I shall refer in my next lecture. There was no insanity in the family.

Another child, a boy, aged four years and two months, was brought to the hospital because he had recently changed in disposition; he seemed to have lost all sense of obedience, so as to be almost unmanageable; he was restless and he was also spiteful. He showed at the same time an interesting association in a temporary diurnal incontinence of fæces—a condition which, as is well known, occurs specially in children of unstable nervous equilibrium. After a few weeks the lawlessness and spitefulness were much less marked and then very quickly disappeared; there had been no recurrence when I heard of the child again two years later.

It would seem, then, from clinical evidence, that, as was suggested by the lack of any constant proportion between general intellectual and moral defect in imbeciles, a morbid defect of moral control may occur apart from any general impairment of intellect. The possibility of such an occurrence was confirmed by the relation of moral defect to physical disease in certain cases where there was no general impairment of intellect. We have considered, also, the occurrence of a morbid defect of moral control apart from obvious physical disease, and we have seen that we can recognise in children both a morbid failure in the development of moral control and also a morbid loss of already acquired moral control. In my next lecture I shall mention a further variety of these manifestations, and consider more fully some of the grounds upon which these defects are regarded as morbid.

The Lumleian Lectures

ON

THE COMPREHENSIVE STUDY OF THORACIC PHTHISIS.

Delivered before the Royal College of Physicians of London on March 13th, 18th, and 20th, 1902,

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LECTURE III.[1]

Delivered on March 20th, 1902.

III.—CLINICAL HISTORY AND INVESTIGATION.

MR. PRESIDENT AND GENTLEMEN,—The clinical aspect of thoracic phthisis opens up a very wide field, but here again I must confine myself to the discussion of my subject on very general lines. An intelligent conception of the clinical history and manifestations of thoracic phthisis can only be founded on a fairly comprehensive and systematic knowledge of the pathological conditions which have been dealt with in the preceding lecture and of their effects. Moreover, for the practical investigation of individual cases it is essential that the observer should have had an adequate training in the study of symptoms as well as in, at any rate, the ordinary skilled methods of examination, the application of which is absolutely necessary in order to form a positive and reliable diagnosis. I venture to remind the modern medical student that the ability to investigate, or what may be termed the "art of examination," even in a common case of "consumption," is not acquired or mastered in a day or without intelligent effort on his part and the more personal experience which he has enjoyed in relation to these cases the more competent and capable will he become to recognise and understand them in practice. To anyone thus qualified there ought to be little or no difficulty in dealing with the large majority of such cases from the diagnostic point of view or in estimating the significance of all the important clinical facts which may be noted. But to suppose that any uneducated, untrained, and ignorant impostor who claims to have discovered a "cure for consumption" is in the least degree competent to determine or to comprehend the conditions with which he is dealing is obviously most absurd and preposterous.

Cases of thoracic phthisis come before the practitioner under very different aspects and, assuming that he has the requisite knowledge and skill, there are certain general principles in dealing with them which need to be strenuously urged at the present day. In the first place, as we are all now so eager to detect the disease in the very early stage, with the view of arresting and curing it, it follows that we cannot be too much on the alert in watching for it when it is not definitely revealed or known to exist, especially under circumstances in which its advent is not improbable. From this point of view there is no excuse for ignoring or neglecting suspicious symptoms, however slight; and it is highly desirable to impress upon the community generally this important principle, for undoubtedly patients themselves are often to blame in this matter. If an individual is known to have had an attack of pleurisy with effusion or pneumonia particular attention should be paid to the case, and it would be well as a precautionary measure to examine the chest from time to time even if there are no symptoms. It cannot be doubted that from a neglect of this practice a large number of cases of phthisis have made considerable progress before the mischief is discovered, the disease having by that time gained a firm hold upon the lungs or other structures. Secondly, it is necessary to be always prepared for cases which do not fall in with the usual conception of phthisis, especially those of a more acute nature, as otherwise very serious mistakes in diagnosis are liable to be made. Thirdly, when a case of recognised thoracic phthisis comes under the care of the practitioner he should never deal with it in an offhand and casual way but should take the trouble to study it clinically in all its aspects and to try to understand the actual conditions with which he has to deal within practical and rational limits. If this were done more generally and as a matter of routine I venture to say that treatment would be founded on a much more definite and sound basis than it often is at the present time.

The clinical study of thoracic phthisis naturally presents itself under the three divisions of: *A.*—Mode of onset or manifestation; *B.*—Personal clinical investigation; and *C.*—Course and terminations. I now proceed to deal, so far as time permits, with these several aspects of the subject in turn.

A.—MODE OF ONSET OR MANIFESTATION.

Under this head I desire to indicate not only how thoracic phthisis may actually begin but in what ways it may be manifested in ordinary practice. Excluding cases originating under special and exceptional circumstances, the modes in which the complaint may be revealed clinically are as follows:—

1. With a ***sudden***, more or less grave, symptom or lesion. Hæmoptysis and pneumothorax are the important events to be noted under this head, and especially the former, which is by no means uncommon. Their relation to phthisical changes has already been considered, and it will suffice to remark here that either of them may be the first definite manifestation of the existence of phthisis, quite apart from the fact that the practitioner may be called in to a case in which the disease is known to be present, though he is personally altogether unacquainted with the previous conditions. Under these circumstances it may be inexpedient to attempt, or

[1] Lectures I. and II. were published in THE LANCET of March 29th (p. 867) and April 5th (p. 937), 1902, respectively.

impossible to arrive at, anything like accurate or complete diagnosis, but the possibility of pneumothorax should always be borne in mind.

2. As an *acute* or *subacute* illness definitely associated with the chest, though not always entirely confined to this region. Moreover, the thoracic changes may be secondary to some other affection, such as influenza, measles, or whooping-cough. Cases coming under this category are by no means uncommon and they may be briefly indicated as follows:—(*a*) Those which are merely a part of *general acute miliary tuberculosis*. Here the pleuræ and pericardium as well as the lungs may be involved. (*b*) *Acute miliary tuberculosis limited to the lungs*, it may be to one lung, associated with an old general pleuritic adhesion, of which I have met with a very interesting example. (*c*) Cases of an *ordinary pneumonic* type, involving a lobe or an entire lung, or even both organs. The consolidation as a rule breaks down rapidly but in some instances it remains as a more or less chronic condition, ultimately becoming disorganised, though occasionally most of it clears up. I have a strong impression that a certain proportion of the rapidly destructive and fatal cases of acute pneumonia which are so disturbing nowadays are really tuberculous; and I have met with some such cases in which I could without doubt associate the condition with previous unrecognised chronic phthisical lesions. On the other hand, it is important to note that pneumonia occurring in a case of definite or even pronounced phthisis may end in recovery. There is rather a prevalent idea, I believe, that apical pneumonia is always tuberculous, but judging by the satisfactory results in several cases which have come under my observation I do not think that there is any real foundation for this notion. (*d*) Cases of a *broncho-pneumonic* or *catarrhal pneumonic* type, combined with more or less diffuse tubercle, followed by rapid caseation and destruction of the pulmonary tissues. These cases are of much more common occurrence and form the larger proportion of those recognised as "galloping consumption." Both lungs are usually affected, either from the first or very speedily. This form is not uncommon in children, especially after measles or whooping-cough; but it also occurs in adults and follows hæmorrhage in many instances. (*e*) Cases which appear as *pleurisy*, sometimes with extensive and diffused patches of lymph-exudation and of a "dry" type, but as a rule with more or less abundant effusion. The more typical cases of tuberculous pleurisy with effusion often present striking features which cannot be overlooked. They may come on in quite a latent manner without any prominent symptoms, but this is by no means always the case. Usually the fluid increases steadily and shows no indication of absorption, while it tends to return again and again after removal by operation. The fluid is usually sero-fibrinous, sometimes hæmorrhagic, but may be purulent, or becomes so later on. In some instances the pleurisy is bilateral or one side is attacked after the other. As I have previously stated, the fluid in undoubted cases of tuberculous pleurisy is sometimes absorbed sooner or later, adhesions being subsequently formed. (*f*) Cases of a *mixed* character, in which both lung and pleura are involved in various degrees, the pulmonary lesions being either obviously pneumonic, or tuberculous, or both. This group of cases is quite definite and I have met with several instances. Possibly the pericardium may be implicated, but I cannot speak positively on this point from personal observation.

3. As a *primary and independent chronic disease* of the lung and adjacent pleura, in the large majority of cases beginning near the apex on one or both sides, and tending to progress in a downward direction, but usually slowly and often insidiously. This is frequently accompanied with catarrh of the main air-tube, or even some degree of bronchitis, or occasionally there is an asthmatic tendency. The symptoms are generally attributed to a "bad cold" or "cold upon cold." The changes may or may not be detected at an early period, but the mischief has often made considerable progress before it is discovered. The ordinary run of cases of thoracic phthisis belong to this category.

4. As a *primary laryngeal tuberculosis* with prominent local symptoms and objective manifestations, followed by implication of the lungs and other thoracic structures. Sometimes the disease declares itself in both larynx and lung from an early period, so that it may be impossible to determine exactly where it started.

5. As a *complication* upon some previous morbid conditions affecting the chest which have been known to exist and are not uncommonly pronounced. Under this category I would draw special attention to cases of phthisis following prolonged chronic bronchitis, either alone or accompanied with emphysema; plastic bronchitis; extensive pleural adhesion or other remains of pleurisy; some forms of fibrotic lung; syphilitic lesions; and aneurysm. In the pleural cases the phthisical lesions often develop at quite a remote period after one or more definite attacks of pleurisy or pneumonia, which may have been entirely forgotten unless careful inquiry elicits a history of their occurrence. There may, however, be no history of such an attack and yet the adherent pleura is obvious enough. The phthisical changes which supervene in this group are generally chronic in their development, but sometimes an acute phthisis is set up.

6. As a *primary glandular affection* in the mediastinum, with obvious clinical signs, afterwards invading the lungs or other structures. This class of case is chiefly met with in children.

7. As a *secondary manifestation of tuberculous disease*, either acute or chronic, in cases where similar mischief is known to exist in other structures, altogether remote from the chest.

8. As a *complication* in the course of one or other of the general or non-tuberculous local complaints with which thoracic phthisis is known to be associated. Of these diabetes is a fairly typical example.

B.—PERSONAL CLINICAL INVESTIGATION.

I propose under this heading to give a general outline of the course of procedure which may be called for in the clinical investigation of a case of thoracic phthisis, and of the phenomena to be studied. What may actually be required in individual instances will depend upon circumstances, and the practitioner must be guided in this matter by his knowledge, practical training, and experience, aided by intelligent judgment and common-sense. It cannot be too strongly insisted upon at the present day that the rational, and indeed essential, investigation of a case of thoracic phthisis involves a great deal more than the examination of sputum for tubercle bacilli, or the employment of other scientific modern methods which threaten to supplant the teaching and experience of the past. There are certain parts of the investigation which ought never to be omitted or neglected, while others are only required under particular circumstances.

Taking, then, a comprehensive survey of what may be termed the stages of clinical investigation for purposes of diagnosis which may be called for or which have been advocated in dealing with cases of thoracic phthisis, they may be thus enumerated: 1. The observation and study of symptoms—symptomatology. 2. Physical examination of the chest and its vicinity by the ordinary simple methods. 3. Examination by special instruments or apparatus. 4. Skilled examination of the sputum or expectoration. 5. Examination of the throat and main air-passage, including laryngoscopy. 6. Removal of fluid from the pleural cavity, or possibly of other morbid products from the chest, either for general examination or for further scientific investigation. 7. Inoculation with tuberculin. 8. Agglutination-test. 9. The use of the Roentgen rays. I will now discuss these several stages in the order in which they have been enumerated.

1.—*Symptomatology.*

The observation and study of the phenomena which in ordinary language we term "symptoms" is of the highest importance in relation to thoracic phthisis from different points of view. Although in doing so I must necessarily be going over ground which is perfectly familiar to any well-informed medical practitioner I should hardly do justice to my subject if I did not indicate briefly the nature of these phenomena, and I trust, therefore, that I may be excused if I appear to trouble you with information which is needless and unworthy of the occasion. The symptoms may be primarily grouped under the following heads: (1) local, associated with the chest and upper air-passages; (2) general or constitutional, affecting the entire system more or less; (3) symptoms connected with the digestive organs; (4) symptoms resulting from tuberculosis of other structures remote from the chest and respiratory apparatus; (5) symptoms due to some general or local disease to which the phthisical condition is secondary; (6) symptoms associated with various complications, non-tuberculous but related to the phthisis, or it may be quite accidental and independent; and (7) mental symptoms. The individual phenomena coming under these several groups present themselves in various degrees and

combinations in different cases, and I now proceed to enumerate them.

1. The more common *local* symptoms include painful or other morbid sensations associated with the chest or air-passages; disorders of respiration of different kinds; cough; materials discharged as expectoration; hæmoptysis; and changes in the voice—especially huskiness or hoarseness. In certain conditions or exceptional cases there may be a troublesome welling-up of secretion from the air-passages which has to be cleared away by voluntary effort when it reaches the throat; obvious wheezy or other noisy sounds during breathing; a foul smell of the breath, or more particularly of the expired air after a cough; certain pressure symptoms; marked disturbance of the cardiac action, apart from mere change in its frequency and strength; or dysphagia.

2. Under *general* symptoms may be first noted any original delicacy of the individual, or the signs of a distinct tuberculous or strumous diathesis. The other chief phenomena are mere increase in temperature or pyrexia, as determined by the clinical thermometer; definite fever or febrile paroxysms, often accompanied with chilliness or actual rigors and of a hectic type, it may be accompanied with the "hectic flush"; a rapid pulse, with changes in its characters; wasting, culminating in positive emaciation, which may be extreme; anæmia, which may be a prominent early symptom; excessive sweating, often profuse, especially during the night, or rather in the early morning, or with sleep at any time, generally associated with fever; and subjective sensations of languor, fatigue on slight exertion, more or less weakness, exhaustion, or actual prostration and helplessness. Cessation of menstruation may be regarded as a symptom of general significance in some cases. A certain degree of œdema of the legs is not uncommon, apart from dropsy due to complications. Cyanosis is marked in certain acute cases, but is quite exceptional in uncomplicated chronic phthisis. Sometimes the skin is abnormally dry as well as hot, or the palms and soles burn. In advanced cases there are various general symptoms indicating profound failure of nutrition of all the structures, and these may be very pronounced in connexion with the skin, hair, nails, &c. At this period, also, the temperature often falls below normal, and there may ultimately be a condition of more or less collapse. Some writers attach special importance to certain particular symptoms as connected with phthisis, but even when present they only occur in well-marked cases and are of little, if any, significance. The characters of the urine vary considerably, and nothing definite can be said on this point.

3. Symptoms connected with the *digestive system* are of great importance in relation to thoracic phthisis and should always receive special attention. They may be pronounced at a very early period, even before there are any indications of chest trouble, but I must say I have not met with many cases presenting the definite "gastric onset" described by some writers or any particular form of dyspepsia. The symptoms to be particularly noted are impairment or loss of appetite, which may amount to total anorexia and entire aversion to food; thirst not uncommonly; a furred or red and irritable tongue and unhealthy condition of the mouth; nausea and tendency to sickness, or actual vomiting, especially after cough, though in some cases quite independent of this act; dyspeptic symptoms, such as acidity or flatulence; and constipation as a rule. The breath is also often peculiarly unpleasant. The red line which is sometimes observed on the gums in advanced cases is by no means peculiar to phthisis. It is a remarkable fact that even in acute or extensive chronic phthisis in its later stages there may be no gastric symptoms whatever, the patient enjoying his food thoroughly and digesting it without any difficulty.

4. The symptoms due to *tuberculosis affecting other structures* vary, of course, with the seat of the trouble, and they are sometimes decidedly complicated. Among the chief structures which are likely to be involved it will suffice to mention the mouth and throat, the intestines, the peritoneum, the absorbent glands, the urinary organs, the genital system in the male or female, and the central nervous system.

5 and 6. The phenomena coming under these groups and which are either associated with diseases preceding the phthisical condition, or with morbid changes occurring as complications during its progress, also necessarily differ in different cases, and I only allude to them in order to remark that they should always be borne in mind and duly recognised when present in individual instances.

7. As regards mental symptoms, it will suffice to note that they may be pronounced in acute phthisical cases and at the termination of chronic cases.

General remarks.—It is obviously quite out of the question to attempt any discussion of individual symptoms in these lectures, though I have notes of many practical points which I should have liked to refer to. I must content myself with offering a few general observations in relation to this part of my subject.

1. The frequent development of thoracic phthisis without any definite local symptoms for a variable period must always be borne in mind. Even in acute cases they may be practically absent for some time or throughout, while general symptoms are pronounced but are misunderstood. It is in the more chronic forms of the disease, however, that its development with little or no local symptomatic manifestations must be particularly remembered in order to avoid errors in diagnosis. There may be literally no symptoms whatever. Not uncommonly, however, slight symptoms are present, such as a hacking dry cough, slight shortness of breath, or huskiness, but they are thought to be of no consequence and it may be a considerable time before they excite any actual alarm, when it is found on examination that the mischief has gained a firm hold. Patients often attach much more importance to localised pain or tenderness and still more to the faintest suspicion of blood; but while these phenomena should always receive adequate attention they are really often of far less significance than those just mentioned. Pronounced tenderness or hyperæsthesia over the apical region of a lung should, however, never be disregarded. In these early cases without prominent local symptoms the careful observation and study of phenomena of a general nature may be of the utmost diagnostic service, as well as of symptoms connected with the alimentary canal and menstrual disorders in young females.

There is another class of case where the onset of thoracic phthisis is liable to be overlooked from a symptomatic point of view—namely, when the patient has suffered from chronic bronchitis, giving rise to more or less constant or frequent cough and expectoration; or when such symptoms occur habitually in the morning in connexion with catarrh of the throat and upper air-passage, usually traceable to definite causes. A similar difficulty may arise in asthmatic cases. Here, again, the study of general symptoms is highly important from a diagnostic point of view.

2. In definite cases of thoracic phthisis symptoms are, as a rule, more or less pronounced, and in most instances they can be recognised with little or no trouble, being often, indeed, but too evident. Still, it cannot be too strongly insisted upon that it is not sufficient merely to enumerate them casually, and that they ought always to be adequately inquired about or personally observed and investigated, so far as is practicable. I feel sure that there is far too much neglect in this direction, most cases being dealt with in a very summary fashion as regards their symptomatology, to the detriment of the patient in many ways. With respect to local symptoms it is highly important that they should be intelligently studied individually, in their mutual bearings, and in relation to the actual thoracic conditions which exist, as determined by physical and other methods of investigation. I particularly wish to draw attention to the diagnostic value of sputum as a mere symptom and also to the indications afforded by disorders of respiration. With regard to hæmoptysis there is, I have reason to know, an exaggerated impression even amongst members of the profession as to its supposed essential relation to phthisis. As a matter of fact it is absent in a considerable percentage of cases from first to last. Among the general symptoms, in the determination of the bodily temperature and weight of the patient the clinical thermometer and weighing-machine should be systematically employed, when obviously required and when circumstances permit. I cannot enter into any details here on this point, but investigation as regards pyrexia is highly important and some observers advocate that the temperature should always be taken in the rectum.

3. As regards the actual symptoms associated with thoracic phthisis we have to be prepared to meet with great diversity in their exact nature, severity, and combinations; while they often change markedly during the progress of the complaint should it be prolonged. Things are not

uncommonly very complicated in this respect, giving rise to much difficulty in treatment.

4. The study of certain individual symptoms is of the highest interest in connexion with the general subject of thoracic phthisis as well as in not a few individual cases, To these, however, I cannot now refer more particularly.

2.—*Physical Examination.*

Notwithstanding the advances which have been made in the scientific clinical study and diagnosis of thoracic phthisis, in my opinion physical examination of the chest still holds its own, and it is the greatest possible mistake to attempt to minimise its value or even to suggest to the rising and future generations of the medical profession that any other method of investigation can take its place in ordinary practice. Such examination is always immediately available, and I have no hesitation in affirming that if it were carried out more as a routine practice when there are any suspicious symptoms of phthisis, whether local or general, or more often both, and in cases of neglected cough, an early and positive diagnosis would be made much more frequently than is the case at present. But to be of any reliable service it must be performed on rational, comprehensive, and systematic lines, with some intelligent conception of the purposes for which it is intended. The actual course of procedure will have to be modified according to circumstances, and in dealing with acute or advanced cases of thoracic phthisis the examination must be particularly conducted with due regard to the condition of the patient so as to guard against unnecessary disturbance or positive injury.

At the outset it is desirable to recognise clearly the purposes which physical examination of the chest has in view in relation to thoracic phthisis and they may be thus summarised: (1) to recognise the mere presence of pulmonary tuberculosis, especially in its earlier stages; (2) to determine the extent of the mischief in the lungs and whether it is unilateral or bilateral; (3) to find out whether other thoracic structures are involved in any way and which; (4) to make out as definitely as possible what are the actual conditions present, both pulmonary and extra-pulmonary; and (5) to watch the progress of the disease in the lungs, especially when of an active type, and to be on the look-out for the development of acute or accidental complications or for other organic changes of a more chronic nature which may be of more or less importance.

Outline of the course of examination.—I propose now to give a sketch of the mode of procedure which may be conveniently followed in the physical examination of phthisical cases under ordinary circumstances, and to call attention to certain points which I think worthy of special notice.

A. It cannot be too strongly insisted upon that for several reasons the examination should always in the first instance include the whole chest, and it is often a source of serious error to confine it to the regions of the apices, on the supposition that the phthisical lesions always begin there. If there be no reason to the contrary the plan I habitually adopt is to get a comprehensive view for a moment of the stripped thorax; then, covering it with some suitable garment, to carry out further examination more leisurely, without needless exposure, of which not a few patients or their friends have an intense dread. When examining the upper thorax it is most important, not merely to study the apices in front, but also the supra-spinous and interscapular regions posteriorly, where the signs are not uncommonly well-marked when absent or indefinite anteriorly. Attention should also be paid to the supra-clavicular as well as to the infra-clavicular spaces and when percussing to the clavicular region. Moreover, when comparing the apices it must not be forgotten that both may be affected and the want of contrast in the signs may be decidedly misleading. Of course, the disease may possibly start in other regions or be disseminated, and this fact should always be borne in mind when examining the thorax for phthisis. The extent of the mischief can obviously be determined only by a comprehensive investigation of the entire region.

B. The four ordinary methods of physical examination—namely, inspection, palpation, percussion, and auscultation—should be thoroughly and efficiently made use of for the recognised purposes for which they are severally intended. I feel sure that the two simpler methods first mentioned are not employed systematically to anything like the extent that they ought to be and thus important diagnostic factors are lost sight of. Of course, percussion and auscultation afford the more definite and positive signs of phthisical and associated lesions and these always demand careful study. I dare say that auscultatory percussion may be useful sometimes but I cannot affirm that I have found it necessary to avail myself of its help. Under special circumstances we may elicit the "bell-sound" or bring out "succussion signs" in cases of thoracic phthisis, mainly, of course, in relation to pneumothorax and its accompaniments. For a practical plan of investigating and recording physical signs in connexion with the chest, which I think may be useful as a basis and guide in dealing with cases of thoracic phthisis, I venture to refer you to an article which I contributed to the *Edinburgh Medical Journal* in 1898 on "The Systematic Physical Examination of the Chest."

C. In the very early stage of pulmonary phthisis of a definitely tuberculous nature, involving the vicinity of the apex of a lung, examination has to be made with special care, behind as well as in front, and due weight must be given, not to any one sign, but to a combination of slight signs. It is necessary here, however, to warn against mistaking an apical adhesion for early phthisis. Even when tuberculosis actually exists physical signs are by no means always so definite at a first examination as to enable a positive diagnosis to be made, though I must say that sufficiently characteristic phenomena are sometimes not detected or duly appreciated from want of experience or of adequate examination. Under these circumstances repetition of the examination is obviously called for—it may be several times at short intervals—in cases which still give occasion for suspicion or anxiety, or where an apical adhesion exists. There are not a few cases of supposed phthisis in which the investigation shows at once and conclusively that there is nothing whatever the matter, so that it may be of negative as well as positive diagnostic value. As a matter of course, repeated examination is necessary at intervals, varying according to the nature of the case, when it is desirable to watch the progress of the lesions in definitely recognised phthisis.

D. The manifest purposes for which physical examination is intended in relation to thoracic phthisis are to recognise and to study the pathological conditions which I have previously discussed so far as they are revealed by physical signs. It may be well if I endeavour to explain briefly the practical application of the several methods from this point of view, and to indicate the course of procedure which may be conveniently followed as a matter of routine.

1. Particular attention should invariably be first paid to the *superficial structures*, especially to determine whether there is wasting and its degree, taking also into account the mammary glands. Should there be marked emaciation due allowance must be made for this condition in the further investigation, else serious mistakes in diagnosis are liable to be made. It must not be supposed, however, that these tissues are always atrophied in cases of phthisis, for the chest may be well covered even when there is extensive disease within. Any enlargement of veins or venules, glandular or other external evidences of tuberculosis, subcutaneous emphysema, or other superficial conditions should be noted and are hardly likely to be overlooked by an ordinarily careful observer.

2. It is always desirable to endeavour to make out what has been the *original state of the thorax* as regards conformation and capacity, independent of any changes due to actual phthisis. An abnormally small and contracted chest, inherent to the individual, is always a disadvantage, whether of the elongated and narrow or flattened type, or both, which is most common. In some instances it may be observed that the thorax has been unduly distended previously to the development of phthisis, and therefore a large chest must not always be regarded as a favourable indication.

3. Any preceding *deformity* must be duly noted and an endeavour made to understand its nature and origin and how far it interferes with the capacity of the chest or with its contents. When pronounced it is not likely to be overlooked, but the slighter malformations, such as pigeon-breast or rickety thorax, by no means always receive the attention they deserve. The changes in the shape and size of the thorax resulting from the intra-thoracic phthisical lesions constitute one class of definite signs of the complaint, and must be studied systematically from that point of view.

4. The next step is to determine the *degree of mobility of the thoracic framework*, which is more or less diminished in many cases of phthisis, and the chest may be absolutely rigid

and fixed. This difficulty is of much consequence in not a few instances, and I desire to emphasise the necessity of recognising it and endeavouring to estimate its degree as a matter of routine in cases of this nature, but particularly in those of a very chronic type and in elderly persons.

5. Abnormal physical conditions of one kind or another associated with the *pleura* are present in practically all cases of thoracic phthisis and should always be systematically looked for. They include morbid states of the surfaces, due to dry pleurisy or to tubercle; fluid effusions of different kinds; adhesions, varying in extent, often with more or less thickening; and the presence of gas or of gas and fluid in the pleural sac. Most of these are likely to attract attention when present and their signs are as a rule sufficiently characteristic. I must again, however, emphasise the necessity of always remembering pleuritic adhesions and endeavouring not only to recognise their existence but to estimate their effects in a particular case. It must also be borne in mind that the conditions mentioned may be variously combined and the physical signs are then sometimes difficult to understand.

6. The changes in the *lungs* are, of course, the most important to be studied by physical examination as a rule, and so far as the phthisical process is concerned they are practically of four kinds—namely: (1) primary consolidation, tuberculous or pneumonic, or both; (2) softening and breaking down of this consolidation; (3) cavities or vomicæ, presenting considerable varieties, with corresponding differences in the physical signs; and (4) fibrosis, giving rise to more or less dense induration and having peculiar signs of its own.

In addition to these conditions, however, we have to bear in mind others which are so often associated with the more pronounced phthisical lesions, especially bronchitis, distension of portions of lung or true emphysema, pulmonary collapse in parts, bronchiectasis, and hæmorrhage or its remains.

It is altogether outside my purpose to describe the physical signs of the several conditions just mentioned in any way, as they must be quite familiar to anyone who has been properly trained in physical examination of the chest. There are two or three practical points, however, to which I desire to refer.

(*a*) I think that there is a very prevalent tendency to expect pronounced signs of consolidation in the early period or so-called "first stage" of phthisis and hence to fail to recognise the presence of the disease until it has made considerable progress. As a matter of fact it is often some time before the signs of pulmonary consolidation are at all characteristic, except, of course, in cases of an acute or subacute type with definite pneumonic lesions.

(*b*) In cases where the signs are practically of the nature of adventitious sounds or râles, heard on auscultation, there is much danger of regarding them as merely bronchitic, when they really indicate a grave type of tuberculous phthisis. Moreover, when bronchitis, especially with much emphysema, has previously existed as a chronic condition the supervention of phthisical lesions may be very difficult to detect and needs to be watched for with particular care. It may be affirmed as a general statement that adventitious sounds limited to the upper part of the chest, and especially to one side, even though there be no definite signs of consolidation, are not merely bronchitic and should always be regarded with suspicion and as usually indicating a phthisical process.

(*c*) Another mistake which I have found very prevalent is to expect the typical signs of a cavity or cavities in the lung before coming to a diagnosis that such a lesion exists. It not uncommonly happens that a vomica is so small that it gives no characteristic signs whatever and we have to rely simply on the character of the râles, commonly described by the comprehensive but somewhat indefinite term "crepitation," and especially *those brought out with or after the act of coughing*. Of course, it is difficult in certain cases to distinguish between mere softening and small cavities but I feel sure that the latter are not uncommonly overlooked when they ought to be recognised, and I have known cases where the lungs have become riddled throughout with cavities which were never diagnosed for the reason to which I have just referred. On the other hand, it must be noted that sometimes the signs of cavity are simulated when such a condition does not exist. When a cavity or cavities are present the signs should always be carefully studied in order to determine as accurately as possible the actual conditions with which we have to deal in relation to these lesions.

(*d*) I have been much struck by the fact how frequently the existence of pronounced fibrosis in cases of thoracic phthisis has been misunderstood, as distinguished from the primary consolidation, especially when limited to an apex. Many a time have I known such a condition diagnosed as the "first stage" of consumption when in reality it was the "fourth stage," if such terms should be applied to the pathological changes at all. The pronounced differences between the signs of early consolidation and those of late induration ought therefore always to be kept prominently in mind in order to avoid serious error.

(*e*) There is one factor which must not be overlooked in the class of cases known as "mechanical phthisis," as contributing to signs of consolidation, and that is the presence in the lungs of solid particles inhaled from without, which may ultimately form considerable and widely-diffused accumulations.

7. It is well to make it a rule in cases of thoracic phthisis always to examine the *heart* and in doing so not to forget the *pericardium*. The *great vessels* also should not be overlooked, especially in patients at or beyond middle life. The cardiac action may be important in itself, apart from the organic changes which have been already referred to. When the heart is extensively exposed the signs are so remarkable as to lead to the erroneous diagnosis of serious cardiac disease or aneurysm, if they are not properly understood. It may be noted that unusual conduction or abnormal quality of the heart-sounds may help in the diagnosis of changes in the lungs in cases of phthisis, or the cardiac action may bring out certain signs in connexion with cavities. Should an aneurysm be present it must receive special attention. A murmur over the subclavian artery, especially on the left side, is not uncommon in cases of chronic phthisis, due to pressure by thickened pleura; and sometimes a loud systolic bruit, or even a thrill, can be detected over the pulmonary artery or possibly over the aorta.

8. It will suffice to note that physical examination may reveal *glandular* or other *mediastinal* changes in cases of thoracic phthisis, and the structures occupying this region must not be overlooked. Moreover, owing to marked contraction of the lungs in very chronic cases, usually accompanied by firm adhesions to the diaphragm and to changes in this structure itself, the adjacent abdominal organs—stomach, liver, and spleen—not uncommonly are drawn up beneath the ribs to an abnormal height, and thus give rise to signs which are liable to cause confusion unless their cause is recognised.

If the course of procedure which I have thus endeavoured to sketch with regard to the application of physical examination of the chest in relation to thoracic phthisis is systematically carried out I venture to affirm that in the large majority of cases the conditions present can be determined without much difficulty, perhaps not in every detail but with sufficient accuracy for practical purposes. Sometimes, however, especially in very chronic cases, they are so extensive and complicated that they can only be made out by very thorough and careful investigation by an experienced observer, and even then it may only be possible to arrive at a proximate diagnosis as to the actual conditions which involve the thorax and its contents.

3.—*Special Instruments and Apparatus.*

To this point I shall refer only very briefly. I can well remember the time when much importance was attached by some authorities on phthisis to the employment of various instruments, to determine more accurately details as to the size and shape of the chest and the movements of respiration, and also of the spirometer. So far as I can judge these supposed "aids to diagnosis" have practically fallen into disuse and in my opinion rightly. Ordinary measurements or the cyrtometer may be of service under certain circumstances, but elaborate apparatus of any kind is, according to my experience, quite uncalled for and cannot be relied upon to afford any really useful information for diagnostic purposes in cases of thoracic phthisis.

4.—*Examination of the Sputum.*

The examination of the expectoration on scientific lines in cases of actual or suspected phthisis has taken such a firm hold upon the profession generally, and is now so familiar in all its details, that I almost feel as if I ought to apologise for doing more than giving the subject a passing notice in these lectures, especially as I can only deal with it very superficially. Still, there are certain practical points which cannot

be passed over altogether in silence. At the outset it must be insisted upon that no practitioner who has any regard for his professional and scientific reputation, or who desires honestly to avail himself of every means of diagnosis at his command, can nowadays safely ignore or omit the systematic examination of the sputum in cases of this nature. If he is not competent to do so himself or has not the time or opportunity, there are scientific laboratories, public and private, where everything that is necessary can be done for him, and, indeed, the more advanced methods of investigation can only be properly carried out by a bacteriological expert. It must be further noted that the examination has often to be repeated again and again at varying intervals.

I have already referred to expectoration as a mere symptom, but I must here again insist upon the great help to be derived from a careful general observation of the materials thus discharged, as regards their amount and characters, as indicating the actual morbid conditions and processes which are associated with the respiratory structures. It is necessary, however, to guard against attaching too much importance to so-called "nummular" sputum or other particular varieties supposed to be characteristic of "cavities" in the lungs. Calcareous particles or masses may be present, to which patients attach much more importance than they deserve.

I think it may be affirmed that chemical examination of sputum is practically of little or no value in cases of thoracic phthisis. Microscopic examination in a general way, aided by staining in some instances, is useful in revealing blood-corpuscles or minute clots, fibrinous casts, pus corpuscles, various organisms—pneumococci, streptococci, staphylococci, aspergillus, &c.; and elastic tissue. The last-mentioned structure is demonstrated by a particular procedure which I need not describe and is of course important as indicating destructive changes in the lung, while it differs in its exact characters according as it comes from the bronchi, the alveoli, or the arterial walls. It is, however, to the investigation for *tubercle bacilli*, as must be familiar to you all, that examination of sputum is nowadays specially directed, and on this matter I desire to offer a few practical comments. In an ordinary way it is only necessary to look for these organisms under the microscope, with their characteristic staining, but under certain circumstances cultures have to be prepared or their presence in expectoration can only be determined by the results of inoculation of animals. Details as to these matters are quite beyond my purpose.

The positive demonstration of the presence of tubercle bacilli in sputum is obviously of the greatest value in diagnosis and is generally regarded as an infallible evidence of the existence of tuberculosis, while their number gives some indication as to the activity of the disease, especially at an early period. There can be no doubt that in a certain proportion of cases the positive diagnosis of phthisis can be thus made before physical signs are at all definite or characteristic; and in suspicious cases, particularly when chest symptoms are persistent, it is well to make it a rule to look carefully again and again for tubercle bacilli in any materials that may be discharged, including blood should hæmoptysis occur.

But there is an opposite side to the question. I feel sure that there is an impression abroad in the profession, as well as amongst the laity, that no positive diagnosis of phthisis can be made unless, and until, tubercle bacilli are detected in the sputum or their presence is proved in other ways. Now, it is an undoubted fact that for a considerable time, even in well-marked cases of phthisis, and, indeed, sometimes throughout there may be no expectoration whatever to examine, and I object strongly to the practice of making patients force something from the throat, naso-pharynx, or even the nasal cavities, in order to find tubercle bacilli which are not present, as I have known happen more than once. Moreover, when other symptoms and physical signs of thoracic phthisis are evident enough I do not see why we should wait to examine the expectoration, when it comes, before making a definite diagnosis. And still further, it is a well-known fact that in undoubted phthisical sputum tubercle bacilli may be very difficult to detect and repeated examination by a bacteriological expert may be required before they can be positively demonstrated. Moeller has recently advocated a remarkable course of procedure in relation both to the patient and the sputum in order to detect tubercle bacilli in suspected cases when they are not revealed in an ordinary way, but it seems to me that this is rather needlessly stretching the point. Another aspect of the matter is that in advanced cases of phthisis, with abundant pus-formation in cavities, tubercle bacilli may practically disappear, while pyogenic cocci and other organisms take their place. Expectoration may also become very slight or even cease when the lungs become fibrotic, and here, again, investigation for tubercle bacilli becomes of no value. I mention this point more particularly because I have known cases in which an arrested phthisis, with former cavity and dense fibrosis, was mistaken for "early consolidation" and the organisms were sought for again and again in the small amount of sputum that could be obtained in order to confirm the diagnosis, but without any result. And, lastly, it must be noted that tubercle bacilli can tell us nothing whatever about the various conditions met with in chronic cases of phthisis which I described in the preceding lecture.

The detection of tubercle bacilli in the expectoration in *acute* chest cases, the nature of which is doubtful, is of considerable importance and they may be present in great numbers. Care must, however, be exercised under such circumstances against giving a too positive unfavourable prognosis because these organisms swarm in the sputum, as I have learnt more than once from personal mistakes.

It is important to note that the inability to discover tubercle bacilli after repeated and efficient examination may be of decided negative value in diagnosis when chest symptoms are present, accompanied, it may be, with more or less general symptoms, as well as with physical signs pointing to some pulmonary mischief, particularly at an apex.

5.—*Examination of the Throat and the Main Air-passage.*

In all cases of definite thoracic phthisis it is desirable to inspect the throat, as morbid conditions in this region often aggravate cough and may be important from other points of view. Actual tuberculous lesions are very rare here in my experience, but they may be present, as well as on the tongue, causing much pain. Of course, examination with the *laryngoscope* is often called for, but it is not necessary or desirable to put the patient to the discomfort or distress of such an examination unless it is really indicated. It is not only useful for the recognition and study of tuberculous lesions affecting the larynx but also sometimes to observe similar lesions in the trachea. Further, laryngoscopy is valuable from a negative point of view as showing the absence of tuberculosis and that symptoms are merely due to catarrh or other less important conditions, or that there is only "accidental" motor disorder of the laryngeal muscles. In certain cases it may be desirable to employ rhinoscopy as well.

6.—*Removal of Fluid or other Morbid Products from the Chest.*

Apart from treatment it may be desirable to obtain fluid from the pleural cavity in cases of definite thoracic phthisis or in those of suspected tuberculous pleurisy. Its general nature and characters must be noted; and afterwards it may be investigated chemically, microscopically, and bacteriologically, according to circumstances. A tuberculous sero-fibrinous effusion or empyema is usually sterile or contains very few bacilli but in some instances they are definite enough. Cultures may be obtained or the inoculation test applied as a means of diagnosis. Possibly other products, besides fluid, might be taken away from the thorax under particular circumstances for bacteriological investigation. For the practical application of these methods the aid of a skilled bacteriologist is required.

7.—*Inoculation of Tuberculin: Reaction-test.*

The inoculation of tuberculin, in order to bring out the reaction-test of Koch, with which I take it for granted you are acquainted, may be employed with advantage as an aid in diagnosis of tuberculous disease in the chest in difficult or obscure cases. At the British Congress on Tuberculosis Koch spoke strongly in favour of this method and it has been found useful by other observers, though it has not found much favour in this country as applied to the human subject, and personally I have never had occasion to employ it. I understand that it is now practised as a matter of routine in Osler's wards at the Johns Hopkins Hospital in Baltimore.

8.—*Agglutination-test.*

Certain observers have maintained that the serum of tuberculous patients will agglutinate the tubercle bacilli, on the same principle as in Widal's test for enteric fever but to-

a less degree. More recent researches have, however, not given satisfactory results, and have shown that the reaction is very inconstant and not specific and therefore cannot be relied upon in the diagnosis of doubtful thoracic tuberculosis.

9.—*Roentgen Rays—Skiagraphy.*

The Roentgen rays have been applied to the investigation of thoracic phthisis, more particularly with the view of its early detection but also for the determination of the exact conditions present. Personally I have no experience of the use of this method, which can only be carried out on a limited scale at present at any rate, and I must refer you to the writings of specialists in this department. There is a very interesting communication on the subject in the *Practitioner* for July, 1901, by Dr. E. Clifford Beale and Dr. Hugh Walsham.

C.—COURSE AND TERMINATIONS.

Cases of thoracic phthisis present great varieties as regards their mode of progress, duration, and actual termination, but there are certain facts relating to this aspect of the clinical history of the complaint which have an important bearing on prognosis and treatment, though I do not think that they are adequately realised. Time forbids me to discuss them at any length on the present occasion and I must content myself with submitting the following general propositions.

1. The natural tendency of phthisical mischief involving the lung, especially if definitely tuberculous, is to be progressive and even an early and limited lesion gives cause for anxiety with regard to the future.

2. There is no foundation whatever for the supposed "three stages" of the complaint, from a clinical point of view, corresponding to the pathological stages of consolidation, softening, and cavity. This is a popular error which the profession should do its utmost to suppress.

3. In not a few cases the progress of thoracic phthisis is very insidious, without any prominent local symptoms, and this may happen even in acute and rapid cases as well as in those of a chronic type.

4. It is very remarkable how in certain *acute* cases of pulmonary phthisis, if not too advanced, arrest of the disease takes place, sometimes ending in a practical cure, especially if the patient can be placed under favourable conditions. In other instances, after rapid progress, it settles down into a chronic and limited form of phthisis. *Acute pleuritic* cases of definitely tuberculous nature are, as a rule, very unsatisfactory in their progress but some striking exceptions are met with.

5. While recognising the tendency of phthisical lesions to advance progressively we must always be fully alive to the wonderful efforts of nature to oppose and withstand them, to check their progress, and to repair the damage which they have caused, even when the morbid changes are definite, extensive, and of a destructive nature. The more chronic the case is, the more likely are these results to happen. At the same time unaffected portions of pulmonary tissue may become developed and utilised for respiratory purposes, a development which it should be our business to encourage and to help.

6. It is quite extraordinary sometimes to note the combinations of chronic conditions affecting the chest with which patients may not only live but even get on fairly comfortably, especially when their circumstances and surroundings are satisfactory and they are prepared to exercise moderate care. As to cavities, which are generally regarded with such terror, there are thousands upon thousands of persons who go about with these lesions, many of whom do excellent work, public as well as private, and you must all be familiar with such cases.

7. Phthisical cases are always liable to variations in their progress, improvement or even apparent arrest of the disease taking place, followed by exacerbation and further activity. A considerable number of cases of "winter cough" are really of a phthisical nature. However quiescent a case may be, or even after a practical cure, the mischief, unfortunately, is liable to start afresh, it may be after a long interval; and this is not an uncommon experience after a supposed "cure" by the open-air treatment. Accidental complications, sudden or acute, not uncommonly interrupt the course of events, being either serious for the time but ultimately recovered from, or leading to an unexpected fatal termination very speedily or within a short period.

8. We must always be prepared for striking changes in the clinical aspect and phenomena of cases of thoracic phthisis during their progress, not only local, but also in relation to the various remote complications which may supervene. Hence a case often entirely alters in its features before the end comes. The final scene varies considerably in its characters and may be very distressing; but in many instances the end is calm and peaceful, while the patient is, as is well known, generally buoyed up with hope even to the last. Sudden syncope is sometimes the immediate cause of death. Acute mania may supervene towards the close of life in chronic phthisis.

9. Another important point to be borne in mind is that sometimes a phthisical patient lingers on indefinitely when apparently almost moribund, especially when kept alive by devoted nursing and care. And further, an individual in advanced consumption who appears to be rapidly approaching the end occasionally rallies and picks up in a wonderful way, living for a long time afterwards and it may be improving considerably. I remember several cases of this kind brought to the Brompton Hospital, their friends thinking that they had relieved themselves of all further responsibility, but the patients were afterwards returned on their hands vastly improved, sometimes much to their disappointment.

CONCLUDING REMARKS.

I need scarcely say, Mr. President, that I regard it as a very high honour to have been invited to deliver the Lumleian Lectures at this College and I desire to express my sincere acknowledgments that I have been thought worthy of standing in the position which has been occupied by so many distinguished predecessors. The task, however, has been a responsible one and by no means easy of accomplishment. I feel but too conscious of the imperfect manner in which I have performed it, but I trust that the subject which I have attempted to deal with is at least worthy of the occasion. It seems to me that the members of the medical profession, collectively as well as individually, have at the present day a specially grave responsibility in relation to consumption. Undoubtedly there are some aspects of modern teaching and practice which are unsatisfactory, to say the least, while others are distinctly disquieting. It is our manifest duty to look at the whole subject comprehensively and on a broad basis; to deal with our patients on rational and common-sense principles; to educate and guide the laity on right lines; to do our utmost to help in the so-called "campaign" or "war" against this terrible scourge; and to promote all measures, whether private or public, which really make for its prevention or eradication. But I think we ought to be particularly cautious and circumspect as to what we say and what promises and predictions we declare about the future of phthisis in general, as affecting communities, as well as in relation to individual cases. The "optimistic platitudes" which are now so widely and dogmatically expressed and written are, in my opinion, doing serious mischief in various ways. On the other hand, it is most important that every individual practitioner should recognise the practical advances which have been made in the treatment of this disease, and he cannot be too cautious as to what prognosis he gives of an unfavourable kind. There can be no doubt that very rash opinions are not uncommonly expressed as to the inevitably fatal termination of a particular case of thoracic phthisis within a short time, especially if it happens to be acute and active, which is then "given up," and the patient falls into the hands of some quack who, if improvement does take place, naturally gets the credit of having saved a "hopeless" case of consumption, which he is not slow to advertise by every possible channel. And I would further utter a word of warning against giving anything like a definite opinion as to the duration of a case of phthisis. No reliance can be placed on the general statistics collected by different writers on this point and every case must be thoughtfully studied on its own merits. Even then it is often quite impossible to give a safe forecast as to when the end will come.

While deprecating any extravagant ideas as to the ultimate extermination of thoracic phthisis there can be no doubt whatever as to the great diminution in the mortality from this cause which has taken place during recent years. I have been favoured with the opportunity of submitting to your notice some remarkable statistics bearing on this point, the outcome of personal investigation by Dr. John F. W. Tatham. These have not yet been published, but Dr.

Tatham has most kindly forwarded them to me with permission on his authority to make any use of them I please.

Mortality from Phthisis in England and Wales per 1,000,000 Living.

Age groups.	Males.		Females.		Reduction per cent. in 1896–1900.	
	1861–70.	1896 to 1900.	1861–70.	1896 to 1900.	Males.	Females.
All ages	2467	1527	2483	1129	38·1	54·5
Under 5 years.	990	390	947	325	60·6	65·7
5 to 10 ,,	431	138	477	199	68·0	58·3
10 to 15 ,,	605	192	1045	409	68·3	60·9
15 to 20 ,,	2190	898	3112	1137	59·0	63·5
20 to 25 ,,	3883	1849	3967	1522	52·4	61·6
25 to 35 ,,	4094	2338	4378	1843	42·9	57·9
35 to 45 ,,	4166	3135	3900	2084	24·7	46·6
45 to 55 ,,	3861	3220	2850	1589	16·6	44·2
55 to 65 ,,	3297	2681	2068	1231	18·7	40·4
65 to 75 ,,	2084	1533	1239	794	24·3	35·9
Above 75 years.	659	557	447	366	15·5	18·1

The above table speaks for itself and is a strong encouragement to the profession generally not to relax in the least degree the efforts that are being made to reduce still further the mortality from phthisis; to cure it in its earlier developments; to prolong the lives of those who are victims of the disease; and at the same time to mitigate their sufferings so far as circumstances permit. I submit, finally, that these objects can only be attained by the intelligent study of thoracic phthisis on a comprehensive basis, and the rational employment and application of preventive and remedial measures and agents founded thereon.

The Hunterian Oration
ON
ORGANO-THERAPY.

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MR. PRESIDENT AND GENTLEMEN,—No one who undertakes the task of delivering the annual oration before this venerable society can do so without feeling the honour which it implies and the responsibility which it carries. I am deeply sensible of the former and am only too conscious of the latter.

[Dr. Davies, after a few introductory remarks, proceeded to recall to his hearers how intimately acquainted John Hunter was with the profound influence of the essential generative organs upon the animal economy and mentioned that the primitive use of animal extracts seemed to have been that they were given with a view to influence sexual functions. He gave references to, and extracts from, various authors dealing with the use of animal substances in medicine from the Ebers Papyrus, B.C. 1500, down to the latest instances revealed in the recently published Blue-book about the concentration camps.[1] He then said:]

Dr. William Salmon in his work, "The New London Dispensatory," published in 1677, which is a kind of extra Pharmacopœia, gives an enormous number of preparations of extracts from the human body and from all kinds of animals. Thus there is a preparation of the cor hominis in powder for epilepsy, also of the ox, the stag, and the pig; the horn of the stag, the rhinoceros, and the unicorn; the liver of the wolf, the otter, and the frog; and the marrow of the goat, the ox, the stag, and the calf. There are several preparations from a man's skull—thus there are the tinctura, the aqua oleum sal, and the essentia cranii humani, also a spiritus cerebri humani—and a number of preparations from the mummy, as well as definite directions for making artificial mummies. He considers the body of a healthy young man as the best for the purpose. We have an interesting reference to the use of the spiritus cranii humani in the case of King Charles II. The symptoms of his case and the medical treatment adopted by the 14 physicians have been well narrated by Sir Henry Halford[2] and Lord Macaulay.[3] The latter, after describing the king's urbanity with which he apologises for the unconscionable slowness of his death, says: "The patient was largely bled, a hot iron applied to his head, a loathsome salt extracted from human skulls was forced into his mouth." Macaulay adds: "The 14 doctors who deliberated on the king's case contradicted each other and themselves. Some of them thought the fit was epileptic and that he should have his doze out. The majority pronounced him to be apoplectic and tortured him during some hours like an Indian at the stake. ..... Nothing better than dissension and vacillation could be expected from such a multitude of advisers. But many of the vulgar not unnaturally concluded, from the perplexity of the great masters of the healing art, that the malady had some extraordinary origin—i.e., murder." Sir Henry Halford states that the salt was given in a julep of 25 drops "ad refocillandas regis vires." He also states that he saw a prescription for the same preparation which was found in the house of Cromwell's apothecary in Duke-street, Westminster, and which was used in the case of Sir Nicholas Throgmorton.

[Coming to the modern uses of organo-therapy Dr. Davies proceeded:]

TESTICULAR EXTRACT.

The scientific use, and consequent revival, of animal extracts as therapeutic agents in modern medicine may be traced to the lectures given in 1869 at the Paris School of Medicine by Dr. Brown-Séquard, his principal object being to establish the fact that all glands with or without excretory ducts give to the blood by an internal secretion principles which are of great importance, if not necessary, and his experiments, made at Nahant, Boston, U.S.A., in 1875, confirmed this view, and he further thought that if the internal secretion of a gland taken from a living animal could be safely introduced into the blood of men suffering from lack of that secretion important therapeutic results would follow. In 1889 he read a paper before the Biological Society of Paris in which he stated that he had found the means and that it consisted of subcutaneously injecting the liquid extract obtained from glands under pressure. He first injected himself with the fresh extract of the testes of young dogs, with the result that he experienced a return of vital energy and rejuvenescence with renewed and efficient peristalsis and control over the bladder and sphincter. From these results he started the theory that the testes secreted into the blood certain products which powerfully influenced the bodily metabolism, more especially that of the nervous tissue. Pasteur, Bogroff, Variot, and many others confirmed his view, while others have entirely failed to obtain any result at all; in some cases it may be due to the fact that the glandular extract was not given fresh, as directed by Brown-Séquard, as sometimes it was boiled or dried or given by the mouth. Brown-Séquard and D'Arsonval have stated that, unlike the thyroid, thymus, or medulla of bones, the sexual glands and the pancreas are inert if swallowed; they

[1] For purposes of future reference we give a list of all authorities quoted by Dr. Davies, though we have not reprinted some of the passages quoted from them. John Hunter: Animal Œconomy. Spencer and Gillen: The Native Tribes of Central Australia. W. E. Roth: Ethnological Studies among the North-west Central Queensland Aborigines. Berdoe: Popular History of Medicine. Official Gazette, Peking, 1870, and the Thakore Sahib of Gondal: History of Aryan Medical Science. Homer. Democritus. B.C. 450. Hippocrates. History of Physick, written originally in French by Daniel le Clerc, M.D., and made English by Dr. Drake and Dr. Baden. 1699. Aretæus. Pliny the Younger. Dioscorides, 200 A.D. Galen. Paulus Ægineta. Saxon Leechdoms. Johannes Damascenus, 777 A.D.: Selecta Artis Medicæ. Albucases. Avicenna. Averroes. Guido de Chauliac. 1300. Albertus Magnus. Jerome Cardan. Paracelsus. Adam Lonicerus: Naturalis Historia. Andrea Matthioli. Thomas Sydenham. Robert Boyle. Thomas Dover. Liebault. Ulysses Androvandus. Daniel Beekherius. R. Burton: Anatomy of Melancholy. R. Pitt, M.D., 1705. Sir Thomas Watson. Dr. O. Möller: Hygiene and Demography of Denmark. Dr. Baas: History of Medicine.—ED. L.

[2] Deaths of Eminent Persons.

[3] History of England, vol. i., chap. 10.

recommend either a subcutaneous injection or a rectal one, which is nearly as efficacious. They published in 1893[4] a remarkable series of 342 cases of locomotor ataxy which were either greatly ameliorated or cured. Depoux, Gilbert Victoroff of Moscow, and Ouspensky report 85 per cent. of successes in various scleroses of the spinal cord and 90 per cent. in locomotor ataxy. In 103 cases of cancer 97 were ameliorated, as shown by the healing of ulcers and cessation of pain and hæmorrhage, but the tumours themselves were unaffected. In phthisis Cornil, Hénocque, Lemoine and Variot, and others obtained favourable results, also Constantin Paul. Although Brown-Séquard's results have not been confirmed by subsequent experience, yet his general statement as to the restorative power of testicular juice when subcutaneously injected is practically admitted. It produces a steady increase of oxyhæmoglobin, cardiac force is strengthened, vascular tone is exalted, and oxygenation of waste products is promoted (as indicated by the increase in urea) and diminution of phosphoric acid in the urine. The mind becomes more clear and active. In anæmia the hæmoglobin has increased from 3 to 14 per cent. and in tuberculosis it has caused the cough to lessen with general bodily improvement and fall of temperature. In insanity its effects have been indefinite, except in some cases to improve the physical condition. Although the internal secretion of the gland has not been actually obtained the results of castration in children point to its existence, for it is well known that in such cases the hair does not grow, the skin remains soft, the arm and leg lengthen and the muscular state is poorly developed, the voice remains a treble, the mammæ undergo enlargement, and such persons in later life tend to grow fat. Grey Edwards[5] has published six cases in which much benefit was received by taking tabloids of orchitic extract. A. E. Wright[6] of Netley recommends the testicle minced up and locally applied for arresting surface hæmorrhage on account of the nucleo-albumin which it supplies.

OVARIAN EXTRACT.

It is stated by Brown-Séquard that ovarian extract has a similar but less powerful effect than testicular extract and he quotes 63 cases of old women benefited by its use. That the ovary contains some secretion of powerful physiological influence over metabolism is seen in cases of young girls whose ovaries have been both removed—a practice apparently common in barbarous parts of Asia. In such cases the characteristic changes at puberty do not occur, the pelvis does not enlarge, menstruation is absent, and the mammary glands and genital organs atrophy; further, certain abnormal changes peculiar to the male occur, as pointed out by Hunter, such as growth of hair in the form of a beard or moustache; and the voice is more masculine than usual. Similar changes occur in a modified degree after double ovariotomy in adults, in whom this operation tends also to cause melancholia, palpitation, giddiness, and obesity. These symptoms are often relieved by the therapeutic administration of the ovarian extract which also often benefits such conditions occurring in the normal menopause. Cattle-breeders are well aware that removal of the ovaries in the cow increases the richness of the milk and also its quantity. That this condition occurs when all connexion with the spinal cord or sympathetic is severed points strongly to some internal secretion from the ovary into the blood influencing the mammary gland which favours metabolism. In favour of this it has been proved that double ovariotomy causes diminution of metabolism with increase of bodily fat and a lessened excretion of phosphoric acid. Bescon and Camboulois ("Le Suc Ovarien, Effets Thérapeutiques") have found great benefit in the use of ovarian extract after castration and in amenorrhœa with chlorosis and in the menopause.[7] Professor Landau used extract of pig's ovaries with beneficial results in climacteric troubles and in the symptoms following oöphorectomy and amenorrhœa from prolonged lactation and hysteria.[8] Bodon in a case of epilepsy developing at the menstrual period with scanty flow found ovarian extract of great benefit causing cessation of the fits and increased flow.[9] Ferré and Bestron state that ovarian juice can cause death in overdoses and that males are more susceptible than females. Given to dogs in overdoses the ovarian extract causes erection and ejaculation of semen; in large doses it causes hæmorrhage into the spinal cord and death; it is also given as an aphrodisiac. Stanley Boyd, assuming from Beatson's work the influence of the ovarian secretion over the mammary glands, has performed oöphorectomy in 54 cases of cancer of the breast—19, or 35 per cent., were more or less benefited and 34 were not benefited, or only doubtfully. In Group 1 of successful cases life was prolonged on the average for six months and in 6 per cent. immunity was obtained for two and a half years. It is true that in some of the cases the thyroid extract was given, but it is difficult, as Stanley Boyd states, to estimate its value, for it was only administered when he had satisfied himself that oöphorectomy had failed; he seems to think that the drug has no real effect. Lastly, he points out that Beatson introduced this operation for *inoperable* cases of cancer. Butlin[10] considers the operation of oöphorectomy as useless and Roger Williams considers it as horrible.[11]

THE THYROID EXTRACT.

The study of the theories which have from time to time been put forward with regard to the action of this gland in the economy truly illustrates the drastic criticism of Dr. James Ward on scientific theories. In his work on "Naturalism and Agnosticism"[12] he tells us: "The story of progress is briefly this—divergence between theory and fact one part of the way, the wreckage of abandoned fictions the rest." But the experimental work of Schiff, von Esselberg, Kocker, Victor Horsley, Murray, and others has thrown a flood of light on the subject and has established that myxœdema and its infantile form cretinism are diseases caused by the loss of the colloid secretion of the gland due to atrophy of its substance. The clinical results obtained, first by grafting a portion of the gland, as suggested by Horsley, in myxœdema, and, secondly, by injecting subcutaneously a glycerine extract of the gland, according to Murray's method, are truly astonishing. A large number of cases have now been published of the remarkable results obtained.

Since 1889 I have had 17 cases of myxœdema under my notice. Four of the patients were men and 13 were women. I have been able to keep in touch with all the male cases and with nine of the female patients. My earliest case is that of a man who had suffered from myxœdema for 10 years. He came under my care in 1889 and I have shown him before the society on two or three occasions. He has now been under the thyroid treatment, first by injections and then by the dried powdered extract, for 11 years, and when I saw him last week he was in excellent health. In another case the patient has been under treatment for 10 years and he is well. Mr. F. E. Cockell a few days ago kindly gave me an account of a case which I saw with him in 1896. He states that the man is in very fair health and that he takes a thyroid tablet occasionally. In the fourth male case also the patient after two years' treatment is well. Of the female cases one patient has been under treatment for 11 years, another for 10 years, and the others range over periods of seven years, six years, two years, and one year and are all keeping free from the disease. Of the remaining four patients one has died and three I have lost sight of.

In cretinism Murray, Byrom Bramwell, and Thomson have published some extraordinary results of thyroid treatment—in one case the patient grew four and three-eighths inches in one year and in another six and a half inches in six months—with marked diminution of the blurring of the features, enlargement of the tongue, and the pendulous abdomen. In a woman, aged 27 years, the growth was four and a half inches in three and a half years and a remarkable development of the mammary glands took place with return of regular and normal menstruation and improvement in the mental condition—the last feature, as Murray points out, is much more marked in patients under 20 years of age and is in proportion to the duration of the disease.

It is remarkable that cretinism, like myxœdema, is more prevalent in the female sex than in the male sex, though not by any means in the same proportion, it being practically two to one against seven to one in the latter. Further, there is an undoubted connexion between goitre and cretinism, as it has been well attested that in districts

[4] Comptes Rendus de l'Académie des Sciences, vol. cxvi., April, 1893.
[5] Brit. Med. Jour., vol. i., 1895, p. 1261.
[6] THE LANCET, Jan. 18th, 1896, p. 153.
[7] Congrès Français de Médecine, Montpellier, 1898.
[8] THE LANCET, July 4th, 1896, p. 62.
[9] Orvosi Hetilap (THE LANCET, May 1st, 1897, p. 1245).
[10] Brit. Med. Jour., Jan. 4th, 1902, p. 10.
[11] Ibid., Jan. 11th, 1902, p. 111.
[12] Naturalism and Agnosticism, vol. i., p. 153.

where both are endemic one generation may be affected with goitre and the succeeding one with cretinism. Besides myxœdema and cretinism Murray[13] has well shown that the simple parenchymatous goitres which occur in adolescents and young adults derive great benefit from thyroid administration, and further that it is often quite sufficient to obviate the necessity for surgical interference. It would seem that in these cases, as he suggests, the gland is called upon for extra secretion, that true hypertrophy is set up, and that the artificial supply enables the gland to rest and to undergo a partial atrophy and so diminish in size. Under this treatment the enlarged gland may lessen to two-thirds, one-half, or even one-third of its former size. In cases where there are adenomata or cysts this treatment causes diminution of the gland tissue itself in which they are imbedded and thus enables an operation to be carried out more easily. Kennicut[14] collected 60 cases of non-malignant and non-cystic cases of goitre, 14 of which were cured, 29 improved, and 17 not improved. Angerer[15] states that in 79 cases which he treated by thyroid extract the goitre was diminished in all of them. Stabel reports improvements in 92 per cent. of the cases and that when treatment was discontinued the goitre began to increase.

Besides the thyroid tissue itself there are four bodies in close anatomical relationship with it termed the "parathyroids" and it has been shown experimentally that when portions of the thyroid body are removed a compensatory hypertrophy takes place but that the structure thus produced is normal parathyroid tissue rather than normal thyroid. Again, the structure of the thyroid body in exophthalmic goitre resembles more closely that of parathyroid tissue than normal thyroid; and, lastly, experiment demonstrates another remarkable fact, as yet unexplained, that removal of all the parathyroid bodies, small as they are, is followed by the same fatal effect that follows complete removal of all thyroidal tissue, and although the parathyroids do not contain colloid material yet Hutchison has found iodine in their composition. The removal of the parathyroids, according to Gleg, causes tremor, slow and unstable gait, and emaciation—a very different condition to the effects caused by removal of the thyroid itself, which, as Murray has shown, produces in the monkey subcutaneous swelling, dryness of skin, loss of hair, and a subnormal temperature. It is certainly remarkable that though the parathyroids contain iodine they have no effect when given in myxœdema and that in exophthalmic goitre, the symptoms of which partially resemble the loss of the parathyroid, they are in no way beneficial. From the symptoms of thyroidism and the clinical contrast of the two diseases it has been supposed that exophthalmic goitre is due to over-action of the thyroid gland and the administration of the thyroid extract, which was recommended at first, has not been considered advisable; indeed, in many cases it produces positive harm.

Tempting as the theory is that exophthalmic goitre can be explained on the "over-action" theory, yet, as Hutchison points out, the absence of uniformity in the histological changes of the gland, the fact that the symptoms may be unilateral, and that the gland itself may not in some cases be enlarged in Graves's disease and can hardly be considered as over-acting, and the absence of any toxicity or alteration in the colloid secretion of the enlarged gland tends to destroy this hypothesis.

The thyroid extract has been used by Beadles,[16] Carter,[17] Claye Shaw,[18] and Woods,[19] and found useful in cases of myxœdema with insanity, and the latter condition has in some cases been entirely cured. Macpherson[20] and Dunlop, Bruce and Macphail extended the treatment to insanities generally—and these results met with so much success that many others have used the thyroid but with very varying results, the recoveries being from 0 to 50 per cent. Out of 1032 cases collected by Mabon and Babcock[21] 16·8 per cent. of the patients recovered, 24 per cent. improved, and 59·2 remained unimproved. Easterbrook treated 130 cases and had 12 per cent. recoveries, in cases which were intractable to other forms of treatment. Large doses were used in every case except in the myxœdematous form, and Easterbrook seems to think that it is the briskness and intensity of the metabolic reaction produced which is the valuable effect in large doses in insanity, and that the drug clears out of the system various transitional, and perhaps toxic, products of metabolism. All the patients who recovered improved physically as well as mentally. He concludes by saying that the thyroid is a powerful metabolic stimulant and that the early quickening of the pulse, the phosphaturia, and nervous and mental symptoms, all point to a special affinity of the drug for the nerve centres; further, that while small doses were tolerated well by the patients in all of his cases large doses were badly borne by those under 20 years of age, and much more so by those over the age of 60 years, the former specially tending to lose weight and the latter to exhibit failure of the pulse; also by patients who were emaciated and those also who were obese, probably in the latter case due to fatty degeneration of the heart. In cases of valvular heart disease the drug was borne well, but these patients were also treated by rest and cardiac tonics. Four of his patients had carcinoma of the lower lip, œsophagus, pylorus, and pancreas respectively. No amelioration was produced except in the pyloric case, in which the gastric symptoms disappeared, the patient increased in weight and had a continuance of good health for two years when fatal hæmorrhage occurred; the diagnosis was confirmed post mortem. The parathyroid extract has no effect in insanity except to raise pulse tension (Easterbrook: The Medico-Psychological Association Prize Essay, p. 38).

The therapeutic use of the thyroid extract has been extended in many directions, to which I will refer, although time does not permit me to do so as fully as I could wish. Byrom Bramwell,[22] struck by the marked changes in the condition of the hair and skin after thyroid treatment in myxœdema, determined to try its effect in certain skin affections and obtained some remarkable results in psoriasis, lupus, ichthyosis, and alopecia. In a paper read by myself before this society[23] on Oct. 25th, 1894, I narrated cases of psoriasis, ichthyosis, and chronic eczema which I had treated with much benefit in this way. Abraham has published the results in 90 cases of different skin affections and has shown that there is a minority benefited by thyroid extract. Pringle[24] has shown from a careful and systematic study that the thyroid produced the more easy formation of healthy cicatrix in cases of cutaneous tubercle properly and systematically treated and thus tends to prevent badly-developed and unhealthy scar tissue. The type of case which answers best is that with superficial ulceration and hyperkeratosis. Sir Hugh Beevor[25] showed before this society in 1898 two remarkable cases of universal alopecia successfully treated by thyroid extract. In tetany the extract has been used with marked benefit and success, which is interesting, as tetanic symptoms have often been observed after thyroidectomy. It is also very useful in relieving spasmodic torticollis, also in fibroid of the uterus and uterine hæmorrhage of some kinds it is said to be useful. Wooldridge showed some years ago that thyroid juice destroys anthrax poison. In certain forms of obesity the thyroid extract has produced remarkable results and it has been found of use in promoting union of fractured bones (Gautier), and in progressive myopathy, according to Lépine, it is beneficial.

In 1896 Beatson of Glasgow introduced the operation of oöphorectomy combined with the administration of thyroid extract for cases of inoperable carcinoma of the breast and obtained some striking results and last year he reported another successful case. Herman has reported eight cases which he has treated in this manner and which he has subsequently watched. In one the patient was alive and well four years after the operation; in the second and third life was prolonged by about 18 months of good health, in the fourth by one year, in the fifth and sixth no benefit occurred, in the seventh there was some benefit, and in the eighth there was decided benefit. Other surgeons, such as Watson Cheyne, Eve, and Lockwood, have obtained similar results, but Langton has stated that only from 18 to 19 per cent. are benefited by this

[13] The Treatment of Simple Goitre in Young Adults, Edinburgh Medical Journal, August, 1900.
[14] Transactions of the Congress of American Physicians and Surgeons, 1897, vol. iv., p. 148.
[15] Münchener Medicinische Wochenschrift, 1896, p. 593.
[16] The Treatment of Myxœdema and Cretinism, Journal of Mental Science, July and October, 1893.
[17] Brit. Med. Jour., April 16th, 1892.
[18] Ibid., August 27th, 1892.
[19] Transactions of the Hunterian Society, April 12th, 1894, p. 50.
[20] Edinburgh Medical Journal, May, 1892 and 1893.
[21] American Journal of Insanity, October, 1899.
[22] THE LANCET, Jan. 27th, 1894, p. 210.
[23] Transactions of the Hunterian Society, 1894, p. 76.
[24] International Clinics, fifth series, April, 1895, p. 343. British Journal of Dermatology, vol. viii., 1896, p. 43.
[25] Transactions of the Hunterian Society, April 13th, 1892.

treatment, and Butlin, who gave thyroid alone in his cases, obtained no benefit from it in any.

A remarkable case is recorded by Mr. F. Page and Dr. W. H. Bishop[28] of a woman, aged 61 years, who was twice operated upon for carcinoma of the breast and its subsequent recurrence. As another recurrence took place a further operation was declined, and the thyroid treatment alone was tried for a period of 10 months, at the end of which time the disease had entirely disappeared, but six months afterwards there was another recurrence and the patient died.

THE SUPRARENAL EXTRACT.

In 1836 Brown-Séquard, struck by Addison's work, investigated the action of the suprarenal glands and published the results of his experiments in animals, which are as follows. 1. That removal of the two capsules in dogs, cats, and rabbits and other animals causes death rapidly and more so even than extirpation of the kidneys. 2. That if a long interval is left between the removal of one and that of the other capsules life may last long, but as shown by Tizzoni the animals die after considerable weakness or paralysis from a special organic disease of the nervous centres. 3. That the blood of animals deprived of the suprarenals is a poison acting powerfully on other animals, as shown by Langlois and Abelous. 4. That animals dying from the absence in blood of the secretion of these glands after removal can be revived at least for a time by the injection of the liquid suprarenal extract. These statements of Brown-Séquard were entirely confirmed by Abelous and Langlois and although the experimental work of other observers, amongst whom Tizzoni's must be considered as important, as pointing in a negative direction, yet all modern work tends to confirm strongly the conclusion that the suprarenals are functional glands of importance to the animal economy. In 1894 Chaufford[27] published an account of a female patient, aged 35 years, suffering from Addison's disease, whom he treated by subcutaneous injection of suprarenal extract prepared according to D'Arsonval's formula—13·5 cubic centimetres being given in the course of nine days; the result was doubtful. Similarly, Bra[28] recorded two cases—a man, aged 37 years, and a woman, aged 42 years—whom he had treated with negative results. Oliver[29] has published an account of a patient who took 45 grains daily of the extract; there was improvement in every respect, the bronzing became less, the appetite improved, and nausea seldom occurred. The case was under observation for two years and improvement was maintained so long as the treatment was kept up. He records, also, two other cases which derived benefit from the treatment and also another under the same treatment for 11 weeks without marked benefit. Box has recorded in the St. Thomas's Hospital Reports[30] the treatment of six cases of Addison's disease by the suprarenal capsule administered either by the mouth or by the rectum, but as four of the patients were in an advanced stage of the disease one cannot draw any conclusion; in two other cases, however, although large doses were given, amounting in all to 7200 grains in one case and 3255 in the other, no real improvement took place in either. Although, as I have stated, Schäfer and Oliver found that the active principle of the suprarenal extract is not destroyed by artificial digestion, Vincent could produce no physiological effects on dogs and rabbits by large doses, and Grünbaum failed to raise his own blood-pressure by taking the suprarenal extract by the mouth. Box states that in five out of seven cases the suprarenals were found to be caseous and he records an interesting fact that in one case, where there was no naked-eye evidence of tubercle, a guinea-pig was successfully inoculated with tuberculosis from it. Delépine had previously recorded a negative result. Rolleston, in his Goulstonian Lectures of 1894, records the case of a woman who had improved under suprarenal treatment. Lloyd Jones[31] also published a case of Addison's disease which derived marked benefit in large doses from the treatment, the patient becoming practically well. Similar cases are recorded by Sansom[32] and Stockton.[33] Kennicut has recorded 48 cases of Addison's disease, of which six were reported to be cured, 22 improved, 18 unimproved, and two aggravated by the treatment. Ringer and Phear[34] record a case of a woman, aged 28 years, who temporarily improved for four weeks under 45 grains daily, increased up to a quarter of an ounce daily, but who subsequently died. It is interesting to note that Schäfer and Oliver obtained no results from suprarenals the medulla of which was caseous and the cortex of which was sclerosed, showing that there was no active principle. Dyer found the active principle in the suprarenal vein and considered it a true internal secretion. J. S. Bury[35] treated a case of Addison's disease in a girl, aged 13 years, with suprarenal extract without benefit. Douglas Stanley[36] considered that the suprarenal extract in a case of splenic anæmia produced a marked increase in red blood corpuscles. The benefit was temporary; post-mortem examination revealed sclerosis of the spleen, the pancreas, and the suprarenals.

The use of the suprarenal extract, like that of the thyroid extract, has been extended in other directions besides the one for which it was originally given. Langley[37] states that the extract has a specific stimulating action on nerve-endings and that it produces effects similar to the stimulation of some one or other sympathetic nerve. Oliver and Schäfer[38] have shown that it is one of the most powerful vaso-constrictor and cardiac tonics we possess and that it acts alike on striped and unstriped muscular tissue given either locally or by the mouth, and they consider that it might be of the greatest clinical value in cases of sudden cardiac failure due to shock, or hæmorrhage, or an overdose of anæsthetics, or for promoting uterine contraction, and recommend its very slow injection into a vein or, in extreme cases of cardiac failure, into the heart-wall itself. Gottlieb has shown that in animals poisoned with chloroform or chloral until the pulse has almost ceased the circulation is almost at once restored by injecting the suprarenal extract into a vein. Further, another remarkable property of the extract is the smallness of the active dose. Thus one-tenth of a dried gland produces a maximal effect on the heart and arteries of a 20-pound dog, and it is concluded from this that one-eight-hundredth part of a grain is capable of producing a well-marked physiological effect in an adult man, which is the smallest active dose on record of any drug in the Pharmacopœia, and when compared with the dose of digitalis and ergot required to produce a similar result, when subcutaneously injected, is markedly in contrast. Bates[39] has shown that the intravenous injection differs in effect from that of the hypodermic or from that when the extract is given by the mouth. This action of the gland explains very well the extreme muscular debility and weakness and the low arterial tension in Addison's disease where its influence is absent. Acting on the results he obtained Oliver suggested and also tested the value of the extract where there is loss of vaso-motor tension as in asthenia, anæmia, cyclic albuminuria, and diabetes mellitus, in which last condition, according to Pavy, a vaso-motor paralysis involving chylo-poietic viscera may stand at the foundation of the form of diabetes limited to defective assimilation of carbohydrates, also in exophthalmic goitre, heart disease, and capillary hæmorrhages. In one case of cyclic albuminuria Oliver states that the albumin disappeared and that in another it diminished. My experience in these cases so far is doubtful. In two out of three cases of diabetes mellitus under Bradford, Ringer, and Poore at University College Hospital the glucose was diminished. In a case of exophthalmic goitre the pulse-rate was lessened and the thyroid gland and exophthalmia were reduced. If exophthalmic goitre is due to over-secretion and absorption of the colloid material suprarenal extract ought to be of benefit as it has exactly the opposite effect on the vaso-motor system to the thyroid.

Valentine, Cleghorn, Cunningham, Kennicut, and Borulta have confirmed Oliver and Schäfer's results in the use of the suprarenal extract in heart disease. I have not been able to come to any definite conclusion as yet with regard to its value in these cases. Kenworthy has given the extract in 15 cases of hæmoptysis with good results. This I have tested in several cases with apparent good effects in some, but, as you are fully aware, there is no more *quæstio vexata*

[28] THE LANCET, May 29th, 1898, p. 1460.
[27] La Semaine Médicale, 1894, p. 74.
[28] La Méthode Brown-Séquard.
[29] Brit. Med. Jour., 1895, vol. ii., pp. 561 and 653.
[30] St. Thomas's Hospital Reports, 1898.
[31] Brit. Med. Jour., 1895, vol. ii., p. 483.
[32] Transactions of the Medical Society of London, 1895.
[33] THE LANCET, Nov. 16th, 1895, p. 1226.
[34] Transactions of the Clinical Society of London, 1896.
[35] THE LANCET, June 19th, 1897, p. 1678.
[36] THE LANCET, Feb. 16th, 1895, p. 413.
[37] Journal of Physiology, vol. xviii., p. 277.
[38] Brit. Med. Jour., Oct. 8th, 1900.
[39] New York Medical Journal, Oct. 16th, 1900.

in medicine than to determine the *post hoc* and *propter hoc* action of drugs in checking hæmoptysis which often tends of itself to cease spontaneously. Cohen states that suprarenal extract is very useful in asthma associated with vaso-motor ataxia in neurotic subjects. T. D. Lister has informed me of a case of asthma with low pulse tension which derived great benefit from the extract. Douglas has found it of great service in hay fever when applied locally or given internally and Curtis has used sprays of it (half a drachm to one ounce). Floerscheim [40] has shown that the suprarenal extract often restores strength and regularity to a feeble and irregular heart and confirms Schäfer and Oliver's statement that it does not cause rapidity of action, because it stimulates the inhibitory centre, but that if the vagus is divided the heart's action becomes more rapid and forcible. Bates [41] sums his conclusions as to its action on the heart as follows. 1. The internal administration does not affect the normal heart and normal blood-pressure. 2. An intermittent pulse becomes regular and a weak pulse stronger. 3. It is temporary in action. 4. It is the most powerful cardiac stimulant known. He also states that cases of exophthalmic goitre are markedly benefited by it and that all inflamed tissues, such as occur in congestion of the eye, the throat, and the larynx, are most decidedly relieved by its application, either locally or if swallowed, and that by its powerful astringent action it facilitates operations on these parts in congestion of the larynx and tuberculous laryngitis with marked benefit. In intra-tympanic surgery Phillips has shown that the extract is of great service from its powerful vaso-constricting action. It is remarkable that the extract appears to have no toxic effect whatever, however frequently used internally or externally. As a local application it relieves pain occurring in cancer of the breast, œsophagus, and tuberculous laryngitis and periodontitis as recorded by E. A. Peters [42] and also its topical use successfully arrested severe epistaxis in a case of hæmophilia. [43] In insanity Easterbrook [44] considers the extract of use in cases of acute maniacal excitement where, as Maurice Craig has pointed out, there is low blood-pressure and also because it lessens tissue oxidation.

THYMUS GLAND EXTRACT.

The experiments of Turelli on dogs show that extirpation of the thymus causes loss of strength and appetite, with diminution of red cells and hæmoglobin and increase of white cells. Abelous and Billard [45] state that the thymus in the frog is an indispensable organ; total ablation of it causes weakness, paresis, and paralysis, hæmorrhage, and œdema with death from auto-intoxication. Svehla [46] using a watery extract of thymus from man and animals says that intravenous injection in man, in the pig, and in the cat causes (1) lowering of blood-pressure, (2) acceleration of the pulse from its action on the heart, and (3) in large doses restlessness with dyspnœa and death. Reinbach, who applied the thymus clinically in Mackinley's clinic, says that it causes diminution in the size of goitre in cases of exophthalmic goitre, but in about 50 per cent. of the cases the goitre was unaffected. Hector Mackenzie [47] tested the action of the thymus in doses varying from several ounces to 10 or 15 grains a day on 20 cases of exophthalmic goitre. His conclusion is that it has no effect on the heart or goitre or exophthalmos, but that it appears to be a remedy of some value as it improves the general condition, and some of the patients were satisfied that it benefited them. On the other hand, 15 cases which he also collected are published by different observers—Tatz and Guérin, Arthur Maude, Parker, [48] Metcalfe, [49] Owen and Cunningham [50]—in 14 of which marked improvement took place in the pulse-rate, exophthalmos, and goitre. Dreschfeld [51] tried the thymus in three cases without benefit. Mobius in his work on Basedow's disease says that several patients improved but not more or sooner than under other modes of treatment. I have seen distinct improvement in two cases and also in two cases of tachycardia. Macalister has reported temporary improvement in pseudo-hypertrophic paralysis.

[40] New York Medical Journal, Oct. 6th, 1900.
[41] Medical News, March 24th, 1900, and Medical Record, March 17th, 1900.
[42] THE LANCET, March 2nd, 1901, p. 619.
[43] Brit. Med. Jour., 1901, p. 1009.
[44] The Medico-Psychological Association, Prize Essay, 1900, p. 48.
[45] Comptes Rendus de la Société de Biologie, Archives de Physiologie, October, 1896.
[46] Chl. f. Phys., 1897-8, p. 477.
[47] American Journal of the Medical Sciences, vol. cxiii., p. 132.
[48] Brit. Med. Jour., 1897, vol. i., p. 528.
[49] American Journal of the Medical Sciences, vol. cxiii., p. 132.
[50] THE LANCET, August 22nd, 1896, p. 569.
[51] The Practitioner, August, 1896, vol. lvii., p. 154.

THE PITUITARY EXTRACT.

Complete removal of the pituitary body causes lowered temperature, loss of appetite, twitchings, tremor, and death. Howell [52] has shown that intravenous injection of the infundibular part of the pituitary gland causes a rise of blood-pressure, but that the hypophysial portion does not. This rise is accompanied by slowing of the pulse which still persists, though to a less extent, after division of the vagi. Schäfer and Swale Vincent [53] confirmed these statements and also found a second substance which produces a well-marked fall of blood-pressure like cholin, but its action is not neutralised by atropine. Injection subcutaneously of a decoction of the infundibular part of the hypophysis shows a certain correspondence with the action of the suprarenal extract in causing contraction of the arterioles and augmentation of heart-beat. The conclusion of these observers is that at present our observations appear to indicate that there may be specific active substances in the infundibular part of the pituitary gland which usually do not occur in nervous matter.

The pituitary extract has been used in cases of acromegaly owing to its hypertrophy being considered as a primary cause of disease. Ransom [54] has obtained negative results in two cases with its use. H. D. Rolleston [55] has published a case treated by the combined use of thyroid and pituitary extract on the theory that the gland is sometimes enlarged in myxœdema and is vicarious in action, and though Schäfer and Oliver have shown that the intravenous injection of the infundibular part of the pituitary extract and thyroid are exactly opposite in effect, yet they have found a second body in it which, like the thyroid extract, produces a fall of blood-pressure. In Rolleston's case headache was relieved, but it is well known that this symptom may be relieved alone by the thyroid. A case of acromegaly was shown some time ago by our late President, Mr. F. Gordon Brown, who informs me that the thyroid extract continues to relieve the headache. Probably there is some connexion between acromegaly and exophthalmic goitre, as the former is sometimes associated with some symptoms of the latter, such as pigmentation, and Schäfer and Oliver have shown the similarity in action of the infundibular portion and suprarenal extract on the heart and arterial system. Kennicut has collected 13 cases of acromegaly treated by pituitary extract; seven showed varying degrees of improvement, five none, and one became worse. In two the violent headache and neuralgic pain in the limbs were lessened. R. Caton [56] reported a case of acromegaly which whilst under pituitary extract varied in condition, but showed marked and rapid improvement when the thyroid extract was given alternating with it. Parson [57] also reported a case where the headache was relieved and general improvement took place under thyroid extract. R. W. Dodgson [58] also reports a case of acromegaly in which the lethargy became less and memory improved under the pituitary extract. Von Cyon [59] has shown lately that the pituitary body regulates intracranial blood-pressure and bodily metabolism.

HEPATIC EXTRACT.

At the Thirteenth International Congress held at Paris in 1898 Gilbert and Carnot [60] gave an account of their experimental researches on extract of liver. Injections of the extract in rabbits and dogs, whether subcutaneous or rectal, caused acceleration of biliary secretion and increase in urea and they found that in cases of alimentary glycosuria in man, after absorption of the liver, that the total quantity of glucose eliminated is smaller, the results being more marked when the absorption takes place by the rectum than by the stomach. The liver extract appears, therefore, to stimulate the hepatic cells and to help it to store up more carbohydrates and to transform them better. If there is hepatic over-activity any specific stimulant would tend to still further exaggerate it. In diabetes mellitus due to functional

[52] Journal of Experimental Medicine, vol. iii., 1898.
[53] Journal of the Physiological Society, March 18th, 1897.
[54] Brit. Med. Jour., 1896, p. 1259.
[55] THE LANCET, April 25th, 1896, p. 1137.
[56] THE LANCET, Feb. 9th, 1895, p. 349.
[57] American Neurological Association.
[58] THE LANCET, March 21st, 1896, p. 772.
[59] Pflüger's Archiv für Physiologie, Band lxxviii., 1901, p. 565.
[60] L'Opothérapie Hépatique dans le Diabète Sucré, Section Thérapeutique, XIII. Congrès International de Médecine.

debility of the liver Gilbert and Carnot found the liver extract to be beneficial and they record a case of a woman with diabetic gangrene of the foot in whose case the sugar was reduced from 160 grammes to 38 grammes in four weeks. The patient relapsed several times when the treatment was stopped but each time derived benefit when it was again resumed and the gangrene was healed. In cases of diabetes due to over-activity of the liver the extract does harm by increasing the sugar eliminated; it may be thus used as a means of diagnosis of an under-acting or over-acting liver, as well as a therapeutic agent. In alcoholic cirrhosis with ascites, jaundice, and œdema and hæmorrhages, the extract has proved very beneficial, also in a case of atrophic cirrhosis. According to these authors, pancreatic extract increases the sugar in diabetic cases which hepatic extract controls. I have used hepatic extract in one case of diabetic phthisis and under its influence the sugar apparently diminished. No other medicine was used.

THE PANCREATIC EXTRACT.

Besides the action of the gland in aiding digestive processes it has been found by the experiments of Minkowski, von Mering, and others that it plays an important part in certain forms of diabetes mellitus. By experimentally removing *in toto* the gland in dogs they produced diabetes mellitus; further, Médon showed that if only a small portion of the pancreas be left, even if it has no intestinal connexion, diabetes is not produced, and that even a graft of the gland subcutaneously is sufficient to prevent diabetes. These experiments led Lépine to put forward the internal secretion theory that has been further elaborated by Tuckett who considers that the pancreatic secretion neutralises a toxic substance absorbed from the intestine through the lymph stream.

Although experimental removal of the pancreas produces diabetes mellitus it is a remarkable and interesting fact that injections of pancreatic extract, whether subcutaneous, intravenous, or peritoneal, and also pancreatic feeding, have not the slightest effect in preventing the glycosuria and clinically the same has been found to be the case. Dixon and Lépine have published interesting statistics on this treatment.

Hector Mackenzie[61] has published results of two cases treated by the liquor pancreaticus with the result of general improvement, increased strength, and lessened thirst and quantity of urine, but no diminution in the sugar. Neville Wood[62] obtained a similar result possibly due to pancreatic pills but in another case a negative result. Combe[63] has reported a case of diabetes of eight years' duration cured by taking pancreatic sandwiches. He considers that the internal secretion is a glycolytic ferment which renders inert circulating glycoses. Williamson[64] has published an interesting table of 26 cases of diabetes mellitus in all of which the pancreas was examined. In eight well-marked changes were found, in four slight changes, and in five atrophy. He suggests, like Tuckett, that in these cases the glycosuria is due to the absorption of a toxic substance from the intestine which is neutralised by the internal secretion of the pancreas. Lauder Brunton in 1874 tried raw meat for diabetes. Williamson also quotes Gilbert and Carnot[65] who in cases of diabetic extract of definite hepatic origin advise the administration of hepatic extract which they consider acts by either increasing the power of the liver to store up reserves of sugar or to cause a more rapid destruction of hydrocarbons taken as food. In 1868 Langdon-Down[66] published a case of fatty diarrhœa with diabetes which he treated with the pancreatic extract with a very successful result. The fat entirely disappeared from the stools, the sugar also disappeared from the urine, and the man gained in weight. Von Noorden has used pancreas and preparations of it with good result in cases of chronic steatorrhœa accompanying diabetes and in other cases of chronic steatorrhœa depending upon disturbance of the function of the pancreas.

EXTRACT OF INTESTINE.

E. Vidal of Perigueux has shown from experiments on rabbits that if pig's fæcal matter be injected into the marginal vein of the ear the animal developed in 15 seconds violent convulsions and died, whereas in another animal of the same weight which had been previously injected with extract of intestine and then subsequently injected with fæcal matter the only symptoms were slight dyspnœa with fairly marked myosis without convulsions and the animal did not die till the following evening, from which it would appear that the intestinal extract neutralised the toxic effect of the intestinal poison, the subsequent death of the animal being due to the inevitable septicæmia set up by a fluid rich in bacteria. Occlusion of intestine in rabbits, guinea-pigs, and rats showed that where the intestinal extract had been injected immediately the animals lived longer than the check ones and that even where stercorræmia had been allowed to commence injection of the extract preserved the animal's life longer, but in this case a much larger dose was requisite, so that not only has the extract a preventative but also a curative action. Vidal applied this knowledge clinically and has recorded a desperate case of strangulated hernia in a man, aged 49 years, with superficial respiration, intermittent pulse, and incessant fæcal vomiting, in whom after injection of the glycerinated intestinal extract the general condition of the patient greatly improved and the removal of an enormous mass of gangrenous tissue, the two ends of the intestine being fixed to the skin, was successfully performed, and after three subsequent injections of the extract the patient recovered without interruption. Vidal concluded that the operation would not have been successful unless the toxic poison had been neutralised. There is no doubt whatever that patients in cases of strangulated hernia, even when the operation has been fully successful, sometimes die from stercorræmic poisoning, and to avoid this surgeons now advise emptying of the bowel above the stricture by a puncture with a small trocar and injecting into the bowel a dose of magnesium sulphate through the cannula after emptying it. Vidal has also recorded a case of invagination in a boy, aged six years, in whose case injection of the glycerine extract neutralised stercorræmic poisoning. The importance of this work has been confirmed in quite another direction by alienists.

Since Bouchard's classical work on the toxicity of the urine, when he showed that in normal urine there existed seven toxic substances not present in cases of uræmia owing to retention in the body, great attention has been paid to auto-intoxication from products of the gastro-intestinal canal which are believed to cause certain forms of nerve disease and of insanity. W. Ford Robertson[67] states: "I am strongly inclined to the belief, which is supported by a large amount of evidence, that various forms of toxæmia of gastro-intestinal origin are the chief factors in the pathogenesis of a large array of acute and chronic diseases, including severe mental diseases, such as general paralysis, senile insanity, locomotor ataxy, idiopathic epilepsy, acute and chronic mania, and melancholia," and he has demonstrated in proof of his views marked alteration in the structural condition of the stomach and intestine in general paralysis, leading to auto-intoxication from disordered products of gastro-intestinal formation. Lately John Macpherson,[68] Commissioner of Lunacy in Scotland, has stated in his last report that he regards the symptoms of vaso-motor disturbance and sudden loss of nervous function which are characteristic of the early stages of general paralysis as indicating the probable action of a toxic agent in the alimentary canal, and that it is, in fact, a form of auto-intoxication. Some years ago Sir Andrew Clark started the theory that anæmia and chlorosis in young girls was due to an auto-intoxication from the constipation so commonly associated with this condition. In a minor degree the symptoms of constipation are well known to us all and one is reminded of the saying of Lord Byron in one of his letters where he writes: "Talk of champagne, there is nothing that cheers your spirits like a dose of Epsom salts."

RENAL EXTRACT.

Brown-Séquard, believing that uræmic symptoms are only partly due to accumulation of certain substances in the blood, recommended renal juice in cases of kidney disease and showed from experiments on rabbits and guinea-pigs that life lasted much longer after the extirpation of both kidneys when injections of renal liquid were used, and he points out that there is a marked difference in the mode of death in cases of anuria when the internal secretion continues, even though the kidneys are in a

[61] Brit. Med. Jour., Jan. 14th, 1893, p. 65.
[62] Ibid., p. 64.
[63] Brit. Med. Jour., Epitome, 1895 (99).
[64] Practitioner, July, 1900, p. 68.
[65] La Semaine Médicale, May 10th, 1897.
[66] Transactions of the Clinical Society of London, vol. xl., 1868, p. 119.
[67] Brit. Med. Jour., Oct. 26th, 1901.
[68] Edinburgh Medical Journal, December, 1901.

great part diseased, to that of cases of disorganisation of the kidney when the internal secretion is stopped; the difference being one of much less violence than in Bright's disease and nephritis. In support of his view he quotes the case recorded by Sir James Paget[69] in which for 13 days there was total suppression of urine without any symptoms of any kind. He also states that in these cases the condition is not to be explained by vicarious urination of the skin. D'Arsonval injected renal liquid in a case of uræmia with temporary benefit, but the patient ultimately died. Neale[70] quoted an analysis and comparison of urine and beef-tea made by Masterman[71] who showed how closely similar they are in composition, the only difference being that beef-tea contains less urea and uric acid, and therefore both are stimulants and not nutritious agents. Neale states that one of the worst cases of epistaxis which he had seen and which had resisted every form of European medicine ceased after the patient drinking a pint of urine, and he had also seen in South America a glass of a child's or young girl's urine tossed off with gusto and apparent benefit as a tonic. He states that in that country urine is a common vehicle for medicine and that of little boys is highly recommended for malignant small-pox. Moss[72] used the glycerinated renal liquid in rabbits, healthy and nephrectomised, and obtained only negative results. In 1852 Bauer found urate of ammonia and guano of great value, if used externally, in phthisis, lupus, and morphœa. In 1862 Hastings published an elaborate report on the treatment of phthisis by the excreta of reptiles. Lately H. Harper[73] has given urea in certain cases of phthisis which appear to have derived much benefit from its use—the ground on which it is given being that phthisis and gout are antagonistic.

SPLENIC EXTRACT.

Schäfer and Oliver have shown that the intravenous injection of splenic extract in a dog causes an immediate fall of arterial pressure, followed by a pronounced continued rise. Wood[74] states that he used extract of spleen with some benefit in exophthalmic goitre but he points out that it is badly borne by the stomach as it causes pain and vomiting and that hypodermic injections are apt to produce local abscess. He was led to its use in exophthalmic goitre by the fact of the spleen being enlarged in myxœdema and cretinism and after thyroidectomy, thus suggesting a relationship between the two glands. Carpenter[75] recommends the extract in typhoid fever on the principle that absence of leucocytosis is a marked feature in this disease, and he considers that it ameliorates the symptoms, reduces the temperature, and hastens recovery.

In their clinical studies with spleen and thyroid extracts Charles Bois and Neilkerr[76] state that they treated 22 cases with eight recoveries, and they sum up as the result of their investigations (1) that the most general result of this treatment is physical improvement; (2) that its action on the mental state is undoubtedly evident in a fair proportion of cases, especially of adolescents and sometimes direct and at other times owing to improved physical conditions; and (3) that it materially assists in rendering thyroid treatment efficacious, the patient after a course of spleen treatment becoming more susceptible to the action of the thyroid.

PULMONARY EXTRACT.

At the French Medical Congress held at Montpellier in 1898 Brunel[77] gave an account of the use of pulmonary juice ("Quelques Indication Nouvelles sur l'Emploi du Suc Pulmonaire") and considered it an efficacious adjuvant in certain conditions where it is possible to stimulate the vital resistance of the patient, but he expressly states that it is not bactericidal or antitoxic in its action ("mais comme un remède renforçant le résistance de l'organisme du poumon en particulier"). It acts best in cases of pleuro-pulmonary suppuration with osteo-arthritic condition as described by Marie—in this the amelioration is rapid and the bony deformation is arrested—but it is useless in advanced cases of phthisis. Arnozan[78] has employed pulmonary juice with success in purulent pleurisy of a chronic nature communicating with the exterior either through the pleura or into the bronchial tubes, and non-tuberculous in character and associated with bony changes. He states that the temperature falls, the pus becomes less abundant and more clear, and the articular stiffness and weakness disappear. Cassaet[79] ("De l'Action du Suc Pulmonaire") states that tuberculous cases with a chronic pleuro-pulmonary septic condition are much benefited by pulmonary juice.

NERVOUS EXTRACTS.

The researches of Halliburton have shown that extract of sympathetic ganglia produces a fall of blood-pressure and that other extracts of the nervous system, as the brain, spinal cord, and ganglia and nerves, produce the same result. The effect can be explained on the hypothesis that cholin is the principal active agent. Gumprecht, like Mott and Halliburton, found in normal cerebral spinal fluid minute doses of cholin and in diseased conditions, in which the katabolic side of nervous action is preponderant, cholin is immensely increased. Thus Mott[80] and Halliburton state that in 150 cases of general paralysis examined by them they found widespread degeneration, not due to degenerative condition of the nerves but to the production of such powerful poisons as cholin or neurin found in the cerebro-spinal fluid of general paralytics, the poisons being the result of auto-intoxication. Brain extract has been recommended by Brown-Séquard and Althaus in epilepsy, locomotor ataxia, chorea, and neurasthenia. In mental diseases no definite results have been produced. Robertson thinks that brain extract may act as a tonic in mild and early cases of neurasthenia.

MAMMARY GLAND EXTRACT.

Shober[81] states that extracts of sheep's mammary gland in tablets equivalent to 20 grains of the desiccated gland given by the mouth three times a day have a positive action on the uterus, causing contraction and so diminishing bleeding. It is, therefore, similar to ergot but far more reliable and surer, and its continued use has no unpleasant effects in uterine fibroids, characterised by excessive and weakening menorrhagia and metrorrhagia; bleeding can be controlled in a few weeks, and the health of the patient is improved. The tumours are inhibited in growth and diminish in size up to a certain point, and by its use the patient can be placed in a more favourable condition for operation. It is also useful in subinvolution of the uterus from any cause unassociated with cancer or structural change, the uterine canal coming down from three inches to one and half inches in five or six weeks. Leucorrhœa and irregular bleeding cease and backache and other reflexes disappear. It is of no use in cancer, dysmenorrhœa of ovarian and tubal origin, or malposition or stenosis.

PAROTID GLAND EXTRACT.

The extract of this gland is of much use in controlling the pain of uncomplicated ovaritis, where the ovaries are enlarged and prolapsed.[82] Bell of Glasgow has found parotid extract useful in ovarian disorders, especially in cases of enlarged and tender ovaries with dysmenorrhœa, metrorrhagia, chronic endometritis, and subinvolution.

I have endeavoured to bring before you a method of therapeutics which, starting from remote antiquity, has come down to the present day, and whilst "tracking out how new thoughts are linked to old ones and seeing how an error cast into the stream of time leaves a streak behind lasting through many changes of the way of man, and noting the struggle through which a truth now rising to the surface, now seemingly lost in the depths, eventually swims triumphant on the flood, we may perhaps the better learn to appraise our present knowledge and the more rightly judge what of the thoughts of to-day is on the direct line of progress."[83] That John Hunter should have independently observed the effects of removal of the essential organs of generation is not surprising—it was simply the outcome of his all-grasping and all-observing "don't-think-but-try" intellect. But to him is also due the credit of making these

[69] Transactions of the Clinical Society of London, 1869, vol. xi., p. 171.
[70] Practitioner, 1881, p. 343.
[71] THE LANCET, June 22nd, 1878, p. 924.
[72] La Clinica Moderna, Dec. 1st, 1897.
[73] THE LANCET, March 9th (p. 694), June 15th (p. 1672), and Dec. 7th (p. 1567), 1901.
[74] American Journal of the Medical Sciences, 1897, p. 511.
[75] Medical Record, Feb. 17th, 1900.
[76] Brit. Med. Jour., vol. ii., 1896, p. 684.
[77] Congrès Français de Médecine, Montpellier, 1898, vol. ii., p. 370.
[78] Ibid., p. 363.
[79] Ibid., vol. iv., p. 366.
[80] Transactions of the Medical Society of London, Feb. 27th, 1900.
[81] Journal of the American Medical Association, July 28th, 190 p. 215.
[82] Ibid.
[83] Michael Foster: The History of Physiology, 1901, p. 1.

observations in a scientific spirit, and although the words "internal secretion" are not once mentioned in his original paper yet one cannot but feel they are writ large across it. The records of our society show that this spirit of observation has never been wanting in our Fellows. It is only necessary to recall such names as William Blizzard, Clift—who though not belonging to our society attended its meetings—the Babingtons, Richard Bright, John Hilton, and Jonathan Hutchinson to prove our intellectual affiliation with John Hunter. Let us in our turn see that we pass on the sacred fire to those who will come after us, ever mindful of the words of the greatest Hunterian orator "that in the world of thought 'he that is mortal may produce that which is immortal.'"[84]

A CASE OF PURULENT PERITONITIS ASSOCIATED WITH EMPYEMA; RECOVERY.[1]

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INFLAMMATIONS of serous membranes are by no means always confined to one locality; there may be double pleurisy, pleuro-pericarditis, peritonitis, or meningitis associated with pleurisy or pleuro-pneumonia. In these cases the double or treble lesion is due to infection by micro-organisms which have been carried from one organ to another by the blood-stream, or in some cases (as from the left pleura to the pericardium) infection has occurred by direct contact. In "pneumococcal septicæmia," pleuro-pneumonia, peritonitis, and meningitis have been found in the same subject, though in an early stage, as death has resulted from toxæmia before the lesions were far advanced. In other cases the streptococcus or the tubercle bacillus has been the organism which has given rise to the multiple inflammation.

These associated serous inflammations have no doubt a certain analogy to multiple joint inflammations and this circumstance has probably suggested the names of "poly-serositis" or "polyorromenitis."[2] It must, however, be obvious that cases of multiple serous inflammations differ widely from one another as regards the infection present and the organs attacked, and nothing but confusion can result from their being included under a common name. The following case is, I think, of interest as illustrating one form of combined serous inflammation—viz., a purulent inflammation occurring simultaneously in the peritoneum and left pleura, fortunately ending in recovery.

The patient was a girl, aged eight and a half years, who was delicate and had suffered a good deal from attacks of bronchitis. She had been fairly well up to Sept. 10th, 1901, when she was seized suddenly with vomiting, diarrhœa, and pain in the abdomen. When seen next day by her medical attendant (Mr. A. W. Senior) the temperature was 103° F., the vomiting was incessant, the stools were foul and liquid, and there were cough and some expectoration of mucus. The vomiting ceased in a few days but the diarrhœa continued for a week and the temperature remained at from 103° to 104°, while great pain was complained of in the abdomen and left chest. There was also jaundice for a few days during the first week of her illness.

When I first saw the patient on Sept. 21st her great complaint was the severe pain which she was suffering in the abdomen; this came on in paroxysms and was evidently very severe. There were marked tympanites and great tenderness all over the abdomen. In the left chest there were signs of consolidation in the lower two-thirds of the lung posteriorly, with bronchial breathing and consonant râles. There was also a patch of pneumonia at the extreme base on the right side. The respirations were rapid, the temperature was 101°, and the pulse was 140. I must confess that I thought very badly of the case, looking upon it as one of "pneumococcal peritonitis" with double pneumonia. On the other hand, her general condition was wonderfully good considering the extent of the inflammatory lesions. She was bright and cheerful when not in pain; the vomiting had ceased, her features were not drawn, nor were there any signs of collapse. The next 12 days produced no improvement and when I saw her a second time (on the twenty-third day of her illness) it was clear that the abdomen contained a large quantity of fluid; the flanks were bulging and a well-marked fluid thrill could be obtained from side to side. The superficial veins were distended and a zone of redness was present around the umbilicus. The left pleura was full of fluid, being dull on percussion, and the heart was pushed over to the right. The patch of pneumonia present on the right side at the last examination had disappeared.

Operation was at once decided upon and Mr. G. A. Wright next day evacuated 40 ounces of pus from the abdomen by inserting a tube at the umbilicus, but before his arrival the pus had penetrated the skin at this spot and some had escaped. A rib was excised and the empyema was drained at the same time. Much pus drained away from the tube in the abdomen during the next few days but it ceased to flow before the end of the week and the tube was removed. The draining of the empyema was a more tedious affair but a good recovery eventually resulted.

Dr. W. J. S. Bythell was good enough to make a very careful examination of the pus and also cultures in Professor S. Delépine's laboratory. He reported as follows:—"Peritoneal pus was thick and viscid, not settling into layers; pale greenish grey colour, inodorous. Microscopically, richer in cells than in fibrin; crowded with cocci which were arranged in tetrads and capsulated, staining extremely good, but capsules not coloured by eosin. A careful examination of 10 slides failed to reveal any pneumococci. Phagocytosis very good. No tubercle bacilli. Vigorous cultures of micrococcus tetragenus obtained on agar and gelatin, the latter without liquefaction; films well stained by Gram's fluid. No colonies of pneumococcus. Empyemic pus, on standing, deposited a greyish-green precipitate, supernatant layer clear amber colour. Microscopically, richer in fibrin than in cells; a small number of pneumococci, varying a good deal in size, and staining reactions; no chains. A few capsulated cocci, arranged mostly in pairs with a few tetrads. Phagocytosis moderately well marked. No tubercle bacilli. Cultures on agar, small isolated colonies of (*a*) typical pneumococci, (*b*) large and opaque colonies of micrococcus tetragenus. Gelatin stab cultures were characteristic and without liquefaction."

This was in many ways a remarkable case and the complete recovery which took place with such inflammatory lesions was certainly surprising. When first seen the case looked like one of "pneumococcal septicæmia" associated with general peritonitis and double pleuro-pneumonia and the prognosis seemed to be of the gloomiest. But at no time was there any very marked collapse such as would have been expected and the vomiting after it ceased during the first week was not again troublesome.

What was the significance of the micrococcus tetragenus in this case? It is apparently often found in suppurations about the neck and respiratory tract. Dr. Bythell tells me that he has found it four times in the pus of empyemata (out of 40 examinations), but in association with the pneumococcus in all four cases and once or twice with other cocci as staphylococcus aureus. I am not aware that it has been noted before in the lymph or pus of peritonitis. In this case it was associated with an inflammation which ran its course without producing the grave constitutional symptoms which one would naturally expect, but whether this coccus produces a milder inflammation than most other cocci it is not possible to say.

Which serous membrane was first affected? The peritoneum or pleura? As far as the evidence goes they commenced simultaneously and there is no evidence to show which was primary.

Was the peritonitis really pneumococcal in origin, the organism perishing before the pus found its way out, as the peritonitis had been in progress for some 23 or 24 days before any bacteriological examinations were made? Certainly the case closely resembles one type of pneumococcal peritonitis as described by M. Broca.[3] This author publishes three cases very similar clinically to mine in which the pneumococcus was present in the pus. In one of his patients the symptoms of peritonitis followed a day or two after the

[84] Sir James Paget: Hunterian Oration, 1877, p. 36.

[1] A paper read at a meeting of the Society for the Study of Disease in Children on March 21st, 1902.

[2] See Dr. F. Taylor: Brit. Med. Jour., 1900, vol. ii., p. 1693.

[3] Péritonite à pneumocoques, par M. Broca, Gazette Hebdomadaire de Médecine et Chirurgie, Oct. 21st, 1900; abstracted in the Archives de Médecine des Enfants, May, 1901.

crisis of an apical pneumonia, in the other two the symptoms of the peritonitis came on without being preceded or accompanied by any pulmonary lesion, but one of these patients died from a post-peritoneal broncho-pneumonia; the other two patients recovered. The symptoms in all three came on suddenly with vomiting, diarrhœa, fever, and pain in the abdomen; in a few days there was obviously a collection of fluid in the abdomen, redness appeared at the umbilicus, and there was a discharge of pus at this spot. The author points out that this rapid formation of pus and "fistulisation rapide de l'ombilic" is characteristic of a pneumococcic peritonitis and that such cases are liable to be confounded with acute enteric fever, tuberculous peritonitis, or appendicitis. M. Broca also reports a case in which there was a local collection of pus in the abdominal wall and a case of diffuse general peritonitis which was rapidly fatal, both of which were pneumococcal. This last case appears to have resembled the case of Dr. J. H. Bryant which was reported in vol. i. of the Transactions of the Society for the Study of Disease in Children.

It is interesting to note that all seven of the cases referred to above were in girls. This may be only a curious coincidence; or is it possible that the infection may take place, like a gonococcal infection, from the vagina to the peritoneum? My above cases illustrate the well-known observation that prognosis is very difficult in peritonitis; the most promising cases often go unexpectedly to the bad, while every now and again a seemingly inevitably fatal case makes a good recovery.

I must express my great indebtedness to Mr. Senior of Levenshulme for his notes of the case and to Dr. Bythell for his careful examination of the pus.

Manchester.

TWO CASES OF PARALYSIS AGITANS IN THE SAME FAMILY, IN WHICH IMPROVEMENT FOLLOWED THE ADMINISTRATION OF HYOSCINE.

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IN the following cases the chief points of interest are (1) the presence of typical symptoms of paralysis agitans in a brother and a sister; (2) the onset of the symptoms at a comparatively early age; and (3) the improvement which followed the administration of hyoscine during each of the two periods when it was given.

The patients first entered my wards in the Manchester Royal Infirmary on Sept. 17th, 1900, and remained under treatment for 11 weeks. They were readmitted on Dec. 31st, 1901, and left on Feb. 5th, 1902. The man, 41 years of age, was formerly a mill-spinner but he was obliged to leave off work at the age of 35 years owing to weakness in his legs and a tendency to fall on to his face. These were the earliest symptoms to attract his attention. A year later he noticed that his legs were shaking; after a few months his arms began to tremble and subsequently he noticed that his head shook at times. He attributed his condition to working in a very hot room and then going out into the cold. His sister stated that her illness began when she was about 18 years old. The tremors came on so gradually that she could not be sure when they actually commenced, but at the age of 19 years they were so bad that she was obliged to give up her work in the mill at which she had been engaged for several years. She attributed her illness to her occupation, which involved the constant contact of her hands with wet and cold yarns. Neither in the case of the brother nor in that of the sister could any history of fright, or injury, or previous illness be obtained. The father of these patients was asthmatical; they did not know the cause of their mother's death. One brother died from consumption at 24 years of age and another brother died from influenza. They stated that two sisters had suffered from paralysis agitans but no confirmation of the statement could be obtained; one of these sisters died at the age of 16 years and the other at the age of 26 years.

Both patients presented the characteristic mask-like face, attitude, tremors, and other symptoms of paralysis agitans. In both cases the tremor affected the hands and forearms, the feet, and to a slight degree the head; in the man the legs also shook as they lay extended on the bed. The tremor affected the hands much more than other parts; it could be controlled by a voluntary effort; it was absent during sleep, very slight on waking in the morning, and worse towards night or after any exertion. It was not symmetrical on the two sides; thus, the man's left hand trembled more than his right hand. The movements of the limbs were weaker than natural. The weakness was irregularly distributed; thus, the grasp of the man's right hand was weaker than that of his left, while the muscular power of his left leg was weaker than that of his right. Slowness of movement, however, was perhaps more conspicuous than weakness. This was especially noticeable as regards the head movements. Thus, when either patient looked to one side the eyes turned quickly but rotation of the head was slowly performed. The muscles of both arms and legs showed increased irritability to tapping. As regards muscular stiffness in the limbs this was slight or absent; in the man no rigidity of limb could be detected, in his sister the muscles of the forearms appeared to be a little more rigid than normal. The fingers did not occupy the usual "interosseal" position but were slightly bent at all the joints. It is to be noticed that in both cases the little fingers presented a congenital deformity, their first phalangeal joints being rigidly flexed owing probably to shortening of their tendons. Both patients presented the characteristic stooping attitude. In walking the man showed a slight tendency to hurry forwards, while in the woman there was a marked tendency to retropulsion. A very slight push on the chest made her walk backwards; the pace increased at each step until she lost her balance and fell into the arms of the nurse walking behind her. In both patients the knee-jerks were exaggerated and in the man a true ankle clonus was obtained on several occasions; sometimes it was absent. No indications of ataxia or of sensory disturbance could be detected and the skin apart from flushing and sweating presented a normal appearance.

The patients were treated by massage and by the administration of hyoscine. At first this drug was given hypodermically, the dose being gradually increased from $\frac{1}{120}$th to $\frac{1}{100}$th of a grain, which was injected once a day. As the larger dose produced nausea, dryness of the mouth, and giddiness the injections were discontinued. Subsequently hyoscine was given in chloroform water by the mouth, as recommended by Dr. R. T. Williamson. At first $\frac{1}{120}$th of a grain was given twice daily. This dose was gradually increased to $\frac{1}{60}$th of a grain. Both patients took this amount without any ill effects and while they were taking hyoscine in this way they appeared to be much better. They stated that they felt more comfortable and were less troubled than formerly with flushings and restlessness. The tremor became less marked, as shown in tracings taken before the administration of hyoscine and again after the drug had been taken for some time. Dr. A. Ramsbottom (my house physician) and others who had watched the cases thought that the attitude and gait were also improved by the treatment.

Judging from an experience of several cases I am inclined to agree with my friend Dr. Williamson that hyoscine is probably the most useful drug that has hitherto been tried in the treatment of paralysis agitans. As a rule, it diminishes or arrests the tremor, checks the troublesome restlessness and the desire to change position, and relieves the "hot flushes" and unpleasant sensations of heat. It is important to remember that hyoscine is a very powerful drug and hence must be administered with great care. It is safer to give it by the mouth than to inject it under the skin. Merck's hyoscine hydrobromate is probably the best preparation; this should be given well diluted in chloroform water. "A prescription which is useful is one-eighth of a grain of hyoscine hydrobromate in six ounces of chloroform water. At first two teaspoonfuls of this may be given, then three, four, or five teaspoonfuls. If necessary the dose may be increased to six teaspoonfuls ($\frac{1}{80}$th of a grain), providing toxic symptoms are not produced. The hyoscine is best given in the morning, just after breakfast, and again in the evening (just before going to bed) if the patient is troubled with restlessness and sleeplessness during the night."[1]

Manchester.

[1] R. T. Williamson: Paralysis Agitans, 1901.

ON CARDIAC INADEQUACY.[1]

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BY the term "cardiac inadequacy" in the sense in which I purpose employing it on this occasion I do not mean inadequacy of the heart from valvular defect, nor have I in my mind that form of inadequacy due to muscular degeneration of the walls of an otherwise normal organ. I refer to a form of inadequacy the existence of which can, perhaps, at present be suggested rather than proved and which need not be associated with histological change of texture but which may, of course, also be concurrent with such. The use of the term may, indeed, be regarded by some as but a cloak for ignorance. It will, however, I think, be found on consideration to be justifiable and it is, moreover, one which has not been left unemployed, although it may require further definition and elucidation. The late Sir Andrew Clark used to speak of a "renal inadequacy" in kidneys which in some instances on anatomical examination were apparently normal, but in which the average functional activity of the organs was subnormal.[2] We know, moreover, from Dr. J. R. Bradford's convincing experiments[3] that a very considerable diminution may be effected in the size of the kidneys without endangering the life of the animal experimented upon, for the remaining renal texture tends to enlarge to cope with the additional work thrown upon the remainder of the organs. The minimum of healthy renal texture compatible with life may, however, be approximately determined by the excision of portions, and then an actual renal inadequacy without disease of the secretory structure is established. Similarly, no doubt, the minimum of any other secretory organ essential to its functional adequacy might also be determined, provided the operation to diminish its bulk were not in itself destructive of life.

In the case of the heart we have to deal with a purely mechanical organ, an aspirative and propulsive pump the functional adequacy of which is largely proportionate to the muscular power of its walls and a due preservation of the proportion between these and the chambers contained by them, although other factors, with which I shall not deal on this occasion, also go to produce the functional adequacy of the organ. It is, perhaps, scarcely necessary to recall the fact that the heart bears a certain relation to the size of the animal which contains it. The heart of an ox is larger than that of a sheep, of a cat than that of a rat, and that of a rat than that of a mouse. In the human subject the heart of an average man weighs more than that of an average woman, of an adult more than that of a child, of a big man more than that of a little man. This is the rule, to which there are occasional exceptions and the exceptional conditions may have important consequences.

According to Reid[4] the average weight of the heart of the adult male is 11 ounces and of the adult female nine ounces. Peacock[5] places it somewhat lower—namely, at nine and three-quarter ounces for the male and at nine ounces for the female. "Inasmuch," writes Walshe, "as the heart varies very sensibly in bulk with the stature and mass of the whole body, and also with the age of the individual, it follows that a general standard applicable with moderate precision to all persons, even of the same sex, is not attainable."[6] For practical purposes he assumes the average weight of the healthy male heart to be nine and a half ounces and of the female organ eight and a half ounces.[7] Hamilton's more recent average, as given by Gibson,[8] is from 10 to 13 ounces for men and from 10 to 11 ounces for women. "His results," says Gibson, "show, as was previously expected, that there is no real ratio between the size of the body and that of the heart; yet they indicate that, as a rule, the heaviest hearts are to be found in the tallest persons."[9] These calculations are avowedly made from the dead heart. It may be possible, however, hereafter, as will be presently suggested, to determine this matter more precisely in the living. A statistical determination of this point from the cadaver is open to fallacy, unless the height and body-weight of each individual be determined at the same time and a sufficient number of hearts of persons of the same general height and weight be compared with one another. Care should also be taken in such a calculation that the organs which are weighed have approximately the same amount of extraneous material attached to them when the weight is taken. I question very much whether all these points have ever been so carefully observed in a sufficient number of cases as to afford a reliable calculation. The fact may, however, be accepted that the larger the animal, whether biped or quadruped, the larger, as a rule, is the normal heart necessary for an adequate propulsion of its circulation, and one may assume for practical purposes that the average weight of the heart of an adult man may be placed at 10 ounces. That accurate observer, Allan Burns of Glasgow, so much of whose work is still valuable, remarks that "in some instances the heart is so diminutive as to bear no proportion to the sanguiferous system. In one case on opening an adult body, with the history of which I was unacquainted, I saw the heart little larger than it is often met with in a new-born child. In another instance I found the heart of a female, 28 years of age, no larger than the same organ usually is in a girl of six. In the preparation the heart appears healthy in structure. The vessels are of a size proportioned to the age of the subject but no more."[10] Such instances of excessive cardiac hypoplasia, while most interesting, must be very rare. Everard Home states of the heart of John Hunter that "it was very small, appearing too little for the cavity in which it lay."[11] The pericardium was thickened and did not collapse on section. This fact recalls a wise caution of of Allan Burns—namely, that "we ought never to consider a heart as reduced in size unless at the same time the pericardium be diminutive."[12] This is true, no doubt, of congenital hypoplasia, but an atrophied heart may occupy a pericardium of normal dimensions. The very difficulty which has been experienced in establishing a definite relation between the size of the organ to the organism in the human subject rather emphasises the importance of drawing further attention to the matter than of leaving it unconsidered. For while a smaller organism may not be materially inconvenienced by the possession of a relatively large and healthy organ it is conceivable that a large organism may suffer from the presence of one too small for its purposes.

The weight of the normal heart being chiefly due to the amount of cardiac muscle which it possesses, heart-force may be roughly stated to be proportionate to heart-weight unless some palpable defect in the organ renders its muscular advantage nugatory. We are justified, I think, in believing this to be the rule, but it is possible that mere bulk, even without gross disease, may in some cases be associated with an essential functional inadequacy. For the functional adequacy of the heart—as, indeed, of all the organs of the body—is the expression not of one but of three factors. In the case of the heart these are muscle, nerve, and blood, and to secure functional adequacy these factors, moreover, must exist in that harmoniously balanced state and proportion the result of which is vigorous vital motion.

The evidences of a due aspiration and propulsion of the circulation are to be found in the absence of excessive overflow into the textures of the body outside the vascular system—that is, in the proper emptying of the veins and in the maintenance of a steady average moisture in the lymphatic vessels and their associated spaces, such as the pleuræ, the pericardium, and the peritoneal cavity. Local circumstances, systemic, pulmonic, or portal, may account for local stagnation in the venous and lymphatic systems apart from the influence of the central organ of circulation, but clinical experience, I believe, justifies the opinion that the influence of local impediments is exaggerated by a diminution of the power of the heart and lessened by an increase in that power. We frequently observe cases in which practically the same local conditions are associated, in some cases with more, in others with less, evidence of venous and lymphatic overflow. This experience likewise holds good as to the results of treatment.

[1] A paper read before the Æsculapian Society on Feb. 21st, 1902.
[2] Transactions of the Medical Society of London, vol. vii.
[3] Goulstonian Lectures, 1898.
[4] Quain's Anatomy, edition 1867, vol. i., p. 32.
[5] Ibid.
[6] Diseases of the Heart, fourth edition, p. 11.
[7] Loc. cit.
[8] Diseases of the Heart and Aorta, p. 26.
[9] Loc. cit.
[10] Observations, &c., Edinburgh, 1809, p. 109.
[11] Life of Hunter, p. lxiii., Preface to Treatise on the Blood.
[12] Op. cit., p. 110.

Thus the removal of effusion in some cases is followed by cure or a long immunity from recurrence. In others, which are mechanically indistinguishable from the former at the bedside, treatment is baffled by a rapid reappearance of retrogressive phenomena or by greater difficulty in establishing a due relation between the forces which propel the circulation and those which tend to retard it. It seems, indeed, probable that the varying success of the physician in securing cardiac "compensation" for disabled action (and this apart altogether from the nature and situation of gross mechanical lesions) is influenced by an essential or congenital difference in hypertrophic power—in a word, in greater cardiac adequacy on the part of one heart as compared with another. Like the poet, the highly recuperative organ is born, not made, but careful management may do much for a radically inferior heart, just as similar care may result in the production of a very passable poetaster. It would be hazardous to fix upon any single circumstance as turning the scale in favour of or against a patient in some cases. It has been argued that functional adequacy is the result of at least three factors, not of one, and the influence of such circumstances as the age, the general organic condition, and the reserve force of the patient cannot be lost sight of.

The two cases which I wish presently to bring before the notice of the Æsculapian Society this evening, however, seem to argue that there is one circumstance in this connexion which has not, so far as I know, been sufficiently emphasised, or, if it has, has been practically forgotten, but which is nevertheless calculated to have an important bearing on the life of the patient and, *ceteris paribus*, on the success of treatment. That circumstance affects the muscular factor in cardiac adequacy and is expressed by an abnormal smallness of the heart in proportion to the circulation which it is called upon to maintain. It is well known that in a certain number of cases of phthisis the heart is found on examination after death to be below the average size and there have been some who have inclined to the belief that there was a connexion between the smallness of the heart and the diseased condition of the lungs. Many consider, however, that this conclusion is an instance of placing the cart before the horse and that the exhausting processes of the pulmonary malady are the more direct causes of the diminution in size or atrophy of the heart. The fuller consideration of this point does not, however, arise at present. It will be shown, moreover, that in those cases which I am about to relate and which were also examined after death smallness of the general size of the organ was associated with hypertrophy of its walls, a circumstance which excludes the agency of atrophic and degenerative processes. It may be remarked, however, in this connexion that Walshe[13] writes as follows: "It may be that a phthisical individual whose heart only reaches the par of health for his age and sex is nevertheless clinically the subject of hypertrophy; his amount of heart is beyond the legitimate wants of his impoverished system." If, therefore, it can be shown that the heart may be too small for the work it has to accomplish tit is manifestly important that such a fact should be capable of detection in the course of clinical investigation. If it be possible to detect enlargement of the heart it should also be possible to detect dimensions less than those usually met with and by the means ordinarily employed. That it is possible by such means cannot be denied. On the other hand, diminution of the heart below the normal size is not clinically so striking as enlargement beyond such average. The resonant conditions and varying shape of the præcordial thorax, moreover, are calculated to mask other than well-marked variations. In one of the cases to be presently related the apex beat was in the fourth left intercostal space and at, not beyond, the nipple line, but I confess that the diagnosis of an abnormally small heart was made only in the deadhouse. In the second case related the small heart was displaced by the subdiaphragmatic tension of the ascitic fluid and in that case also the discovery of the small heart was left to the pathologist. These facts, however, do not in any way remove the possibility of the discovery of a disproportionately small heart by the ordinary processes of inspection, percussion, palpation, and auscultation. We have, however, now a surer method of coming to a conclusion on this point by the accurately measured use of the Roentgen-ray apparatus. In all photographic processes the value of the resulting picture would be greatly enhanced by the routine use of a readable scale on such pictures; I shall presently show how an ordinary tape measure may be utilised for this purpose. But a scale drawn across the face of the fluorescent screen in Roentgen radioscopy or exact measurement of the shadow in Roentgen radiography would give an approximately correct idea of the dimensions of the portrayed shadow. If, further, the distance of the light from the body and the antero-posterior dimensions of the thorax examined were similarly measured, under the same circumstances as to time, feeding, and posture, we could form a sufficiently correct idea of the size of the organ casting the shadow. By this means, then, the height and weight of the organism being known, data could be collected to determine whether a given normal heart was above or below the normal size.

When a heart essentially inadequate gives way under the strain of ordinary existence or exceptional effort, or in consequence of acquired impediment from disease affecting any portion of the circulatory system, the persistence, rapid onset, and intractability of the conditions induced may be expected to be characteristic of the essential and original fault. But perhaps the most delicate index to imperfect blood-pressure is the amount of the urine—that is, of water voided by the kidneys. The secretory structure proper to these organs may be healthy and the output of solids not apparently lessened, but the urine will have a high specific gravity and proportionately deposit a larger amount of solids. Such a condition may, of course, result and, as we know, does result, when a heart, however originally adequate, breaks down from any cause; but when such failure is supplemented by an essential inadequacy it may be expected to be a still more marked, and perhaps more easily detectable, sign. For the rest the essentially inadequate organ must participate in all the recognised phenomena indicating failure of the heart from any cause whatever.

With these preliminary observations I shall now endeavour to answer the question whether there be or not an essential cardiac inadequacy. If the question be answered in the affirmative it will necessarily imply the existence likewise of an essential cardiac *adequacy* which may manifest itself under circumstances of mechanical or other strain placed upon the energies of the heart. To answer the question rationally the hypothesis suggested must be submitted to the touchstone of fact; I must relate instances of its occurrence and I purpose considering on this occasion the influence of diminished bulk of muscle in the heart or disproportionate smallness of the organ, of which the following case was a good example.

CASE 1.—A man, 57 years of age, was under my care at the Great Northern Central Hospital. He had been a policeman. He was admitted on May 7th, 1901. About a month previously he had noticed swelling of the abdomen and experienced dyspnœa on exertion. He looked more than his age, was sallow and somewhat emaciated, was rather above the average height, and the peritoneal cavity was filled with fluid. His legs, also, were œdematous. His pulse-rate was 80; it was regular, rather large, and easily compressible. The apex-beat of the heart could neither be felt nor seen. Its left percussion line was within the vertical nipple line and its right reached the mid-sternum. The first sound was very soft and weak and the second was short and unaccentuated. There was no bruit. The percussion note over the bases of both lungs was slightly impaired and there were fine and medium-sized râles over the bases of both lungs posteriorly. Vocal fremitus was normal. The urine had a specific gravity of 1025; it showed a heavy deposit of lithates but contained neither albumin, blood, nor sugar. Rest in bed was at first followed by considerable increase in respiratory and general comfort but had no appreciable effect upon the ascitic tension of the abdomen. On the 17th 200 ounces of fluid were withdrawn from the abdomen by paracentesis. The parietes being lax thereafter the abdominal cavity could be examined by palpation but no induration of liver or other abnormality could be detected. The urine continued normal in character though not in quantity. On the 30th 180 ounces of fluid were removed by tapping. Next day I determined the following points in connexion with the patient's heart. The apex beat was apparently just above the fourth rib and at the nipple which was four inches from the mid-sternum. There was dense percussion dulness below that point running without modification of note into the liver dulness. On June 4th the ascitic fluid was again noticed to be reaccumulating and on the 13th 260 ounces were removed. The condition of the patient was now steadily deteriorating and jaundice became

[13] Op. cit., p. 16

well marked. On the 20th 260 ounces of fluid were removed by paracentesis abdominis and the same quantity was again withdrawn on the 26th. The patient died on July 3rd. The average quantity of urine passed by him during his illness, and estimated from 32 diurnal collections, was about 24 ounces, the highest record being 42 ounces, and the lowest nine ounces, for 24 hours.

On post-mortem examination the abdominal cavity was found to be full of icteric fluid. The liver was enlarged but on microscopic examination showed no overgrowth of interstitial tissue. The spleen was also large and its pulp was soft. The kidneys were large and had adherent capsules. The pancreas was hypertrophied and in places hard but gave no evidence of tumour or malignant growth. The stomach and intestines were normal. The heart was abnormally small, weighing only seven and a half ounces. Its ventricular walls were hypertrophied, the left in its greatest thickness measuring three-quarters of an inch, the septum rather more, and the right ventricle at its thickest point about half an inch. The cavities of the heart were relatively small and all the valves were normal. On microscopic examination the muscle bundles were found to be separated by an excess of interstitial tissue and here and there the muscle fibres showed a fine fatty degeneration. The lungs were somewhat shrunken, the left being œdematous and at its apex adherent, where there was a focus of pneumonia. The pleural cavities contained no excess of fluid. In this case, notwithstanding a record in the notes of the necropsy of adherent capsules on the kidneys, there was no reason to regard those organs as diseased and the absence of interstitial changes in the liver likewise excluded a strangling of the portal circulation as the cause of recurrent ascites or cardiac hypertrophy. The small hypertrophied heart, therefore, may be legitimately regarded as the evidence of an originally inadequate organ of otherwise healthy constitution, coping for a time successfully with a task beyond its capacity and ultimately yielding to its overwork, prematurely ageing, and finally causing the death of its containing organism.

J. McS.—Longitudinal section of the heart from behind showing the left ventricle to the left and a large adherent ante-mortem clot in the right auricle.
G. P.—Longitudinal section of the heart from the front, showing the left ventricle to the right.
The tape scale shows the measurements.

In the following case a similarly inadequate heart was not the primary cause of the phenomena which marked the decay and death of the organism, but it may, I think, be rationally regarded as having aggravated the fatal conditions. The heart was again small but hypertrophied.

CASE 2.—A man, 33 years of age, was under my care at the Great Northern Central Hospital. He was admitted on Sept. 17th, 1901, suffering from dyspnœa and peritoneal dropsy. He was a thin, feeble-looking man, rather over the average height. His father had died from heart disease but there were no other points in his family history, as given by the patient, to call for comment. He himself had been a soldier in India and had suffered repeatedly from fever and ague. He denied both alcoholic excess and venereal infection. His temperature ranged from 97° to 99° F. and his pulse-rate from 72 to 100. The following note was made of the condition of the heart on admission: "Cardiac dulness begins at the third rib above; it does not extend to the right beyond the right edge of the sternum, but there is some definite dulness to the left beyond the nipple line. No murmurs are detected." The lungs were equally resonant on percussion on both sides and scattered rhonchi were the only abnormal sounds heard in either organ. His urine was scanty, of high specific gravity (1030), and it contained an excess of urates but neither albumin nor sugar. The peritoneal cavity was filled with free fluid and so distended as to prevent an examination of the abdominal organs by palpation. On the 18th 187 ounces of fluid were removed by paracentesis. The fluid was clear and yellow, had a specific gravity of 1010, and was two-thirds albuminous. The abdominal organs could now be palpated and the spleen was found to be greatly enlarged, its lowest point being detectable just above the left iliac crest and its anterior edge displaying a well-marked notch. Beyond this nothing definite was noted. The urine remained scanty and loaded with urates but free from albumin and the ascitic fluid gradually re-accumulated until Oct. 5th when 90 ounces were removed by tapping. On examination the patient's blood showed 75 per cent. of hæmoglobin, 4,300,000 red cells, no poikilocytosis, and 6250 white cells, the majority of which were polynuclear. After paracentesis the patient was more comfortable but his general condition was unsatisfactory. On the 6th he had slight hæmoptysis; on the 7th the abdomen was strapped to retard the reaccumulation of fluid; on the 8th the visible impulse of his heart was noted as having been in the fourth and fifth spaces and the area of cardiac dulness as four and a half by four inches, and the heart's beat was regular and without bruit. On the 11th palpable and audible coarse friction was detected over the enlarged spleen and the patient lost a little blood by the bowels. On the 30th 100 ounces of fluid similar in character to that previously examined were withdrawn. The patient complained a good deal of pain in the abdomen (? peritonitis) and required hypodermic injection of morphia for relief. Dulness over the bases of the lungs posteriorly was also detected and the respiratory sounds were somewhat masked. As the abdominal strapping appeared to aggravate discomfort it was removed on Nov. 12th and on the 25th 152 ounces of fluid were withdrawn by tapping. The splenic condition varied very little and the hard edge of a cirrhotic liver could now be felt in the upper portion of the epigastrium. The enlargement of the spleen was therefore regarded as mainly due to hepatic strangling of its circulation, with the possible addition of an old malarial element. The patient expressing a desire to go

home for a few days and his home being close at hand he was permitted to leave the hospital and advised to return at once if he became in any way more embarrassed. He was readmitted on Dec. 2nd, having had hæmatemesis to a large amount the night previously. He looked rather blanched. He had a pulse of 120 and a temperature of 99·4°. The abdominal dropsy had recurred. As the patient had been tapped and strapped with ever-recurring dropsy so frequently I asked my colleague, Mr. Peyton T. B. Beale, to empty thoroughly the peritoneal cavity by peritoneal section. This was accordingly done on the 3rd but no attempt was made to stitch the omentum to the parietal peritoneum or to establish adhesions by peritoneal friction, as has been practised by some surgeons. The patient rallied well after the operation but had recurrence of hæmatemesis to about a pint next day. This was checked by the use of 10 minims of a solution of suprarenal extract (20 per cent.) in an ounce of hot water. On the 5th there was again a recurrence of the bleeding which also was checked by the use of suprarenal extract. Next day the patient died exhausted. The average daily output of urine in this case, estimated from 73 separate collections, was 20 ounces, the largest quantity recorded during 24 hours being 42 ounces and the lowest six ounces, while on a considerable number of occasions the quantity measured was well below 20 ounces.

The body was examined post mortem on the 6th. The peritoneal cavity contained over 70 ounces of thin sanious fluid with a few coagula of blood and some flocculi of fibrin. The peritoneum itself was thickened throughout and opaque. The liver, spleen, stomach, gall-bladder, and large intestine were matted together by old adhesions and in a measure by newly-formed fibrinous deposit. The liver was small, hard, hobnailed, and fatty on section. The interstitial tissue was much increased. The spleen was greatly enlarged and almost inseparably connected with the stomach by old and new adhesions of varying consistency. The stomach was catarrhal and congested and contained some blood-clots. The intestines were also affected by catarrh and were congested. The kidneys were somewhat swollen and cyanosed, their parenchyma was fatty, the capsules were adherent in places, and the organs were lobulated. Both lungs were adherent posteriorly, collapsed, and affected by hypostatic congestion. The right pleura contained 28, and the left 46, ounces of a sanious flocculent fluid. The heart was remarkably small, weighing, with the usual amount of extraneous vessels attached and the intra-cardiac clots, eight ounces. It was normal as to its valves. The ventricular walls were hypertrophied, the left at its thickened part, including the section of a papillary muscle, measuring one inch and the septum three-quarters of an inch. A large decolourised clot was adherent to the wall of the right auricle and a smaller one of the same character occupied the conus arteriosus. On microscopic examination there was some, but not much, increase of interstitial tissue and the muscular fibre and vessels were normal.

These two cases, then, as they were observed for a considerable period during life and were examined carefully after death, will serve to illustrate the point which I wished to submit to the society this evening, whether they be regarded as sufficiently establishing that point or no. The time at our disposal prevents a consideration of the influence of failure in the nerve and blood factors in cardiac inadequacy which may impair the efficiency of a heart otherwise well proportioned to the size of the body which it has to serve. Nor have we time to illustrate the contrary condition of essential cardiac adequacy—if that be a justifiable term. By bearing in mind, however, this underlying adequacy or inadequacy in cardiac action, as the case may be, and which I believe to be essential qualities of the organ, I contend that we shall find the key to some of those circumstances of success or failure in the management of diseases and disorders of the heart which so frequently afford food for thought. It may likewise in some measure serve to explain why the secondary phenomena of cardiac failure in distant parts of the body should manifest themselves in some cases, while in others much resembling these such phenomena are absent or transient, sometimes more, and at other times less, amenable to treatment.

Upper Berkeley-street, W.

ROYAL DENTAL HOSPITAL OF LONDON.—It is announced that a special *matinée* will be given at Queen's-gate Hall on Friday, May 2nd, in aid of the above institution. A triple bill of original plays will be presented. The company engaged is a purely professional one.

PYREXIA OF GASTRO-INTESTINAL ORIGIN DURING THE PUERPERIUM.

BY ETHEL M. N. WILLIAMS, M.D. LOND.

IT is a commonplace to say that many of the slighter cases of fever during the puerperium are due to disturbance originating in the gastro-intestinal tract, but few people would feel happy in regarding as of purely gastro-intestinal origin cases in which the temperature rose to 103° or 104° F., with a pulse of from 120 to 140. The picture in most minds when we speak of fever originating in the alimentary tract during the puerperium is of a moderate fever of from 100° to 102° occurring about the third day with little or no quickening of the pulse and little or no constitutional disturbance—the whole thing vanishing as soon as the bowels are satisfactorily opened. Most people, I think, hold that any marked quickening of the pulse up to 120 or more, especially when accompanied by high fever, is strong evidence of ordinary septic infection. The two following cases, if they are to be regarded as of gastro-intestinal origin, show that such infection can assume a much graver aspect. The first was a pure sapræmia, though a severe case; the second was of special interest owing to the rash which was such a marked feature. Certainly in the past such a case would have been labeled "puerperal scarlet fever," though the rash only in parts resembled the rash of scarlet fever and there was never any sore-throat or typical condition of the tongue.

CASE 1.—In the case of this patient, a married woman, aged 27 years, 2-para, labour began about 1 P.M. on August 6th, 1901. The vertex presented and the patient was delivered normally of a female child at about 4.30 P.M. There was no tear. The pulse was 96 at the time of delivery and it did not fall in rapidity, though the uterus contracted well and there was no loss. The patient complained of irritation and soreness about the anus and there were some reddening of the skin and scalding in the neighbourhood. She said that the bowels had been opened daily throughout the pregnancy, though the motions were generally hard. On the second and third days after delivery the temperature was normal and the pulse-rate ranged from 96 to 100. On the 8th an ounce of castor oil was taken early in the morning but the bowels did not act till late in the day. There was a great deal of milk which flowed away freely from the breasts. Late on the evening of the 10th the patient began to complain of abdominal pain and headache. When seen at about 9 A.M. on the 11th the temperature was 103·6° and the pulse was 120. She had not slept at all during the previous night. The tongue was moist and was covered with white fur and there were much headache and abdominal pain which seemed to be worst about the umbilicus. The abdomen was soft, it moved normally with respiration, and there was no tenderness except possibly in the upper part. The uterus was hard and involution was proceeding satisfactorily. The lochia were quite normal. There was much complaint of pain and of burning about the anus and the skin was markedly reddened to some distance from the orifice. A large enema of soap and water with two ounces of turpentine was given. This brought away some hardened fæces and a great deal of flatus. An intra-uterine douche was also given which brought away nothing. A mixture containing two grains of sulphate of quinine and 20 minims of liquid extract of ergot was ordered to be taken every six hours. In an hour the temperature had fallen to 101°. When seen at 6 P.M. the temperature was 103·8°, the pulse was 132, and the respirations were 30. There was a good deal of headache but the abdominal pain and anal scalding were much less. The tongue was moist and was covered with thick white fur. Milk was still being secreted, though in much lessened quantity. An enema of two litres of a dilute solution of creolin was given from a fountain douche. A large amount of fæces and much flatus came away. In an hour the temperature had fallen to 101·6°. The bowels were opened four times during the night. On the 12th at 9.30 A.M. the temperature was 98·8°, the pulse was 112, and the respirations were 18. The anal scalding and headache had gone and the patient said that she felt quite well. At 6 P.M. the temperature was 98·8° and the pulse was 96. By the next day the pulse had fallen to between 70 and 80 and recovery from this point was quite uneventful.

CASE 2.—The notes of this case were given to me by Dr. Minnie Ethel Bowlby. The patient, a primipara, had suffered from constipation for three or four years but it had grown much worse during the pregnancy. Labour began about 5 A.M. on Nov. 12th. The vertex presented and the patient was delivered of a female child at about 1 P.M. The placenta was expelled. There was a small tear in the perineum and one stitch was put in. The pulse was 68. In the evening the temperature was 100° F. On the 13th the temperature was normal and the uterus was hard and there was no tenderness. On the 14th the temperature was 100°. An enema was given which brought away much fæces and flatus. The temperature after the enema was 99°. On the 15th the temperature was 100·6°, the uterus was hard, and the lochia were normal. There was some flatulence. There was no headache. A bright-red papular rash appeared over the abdomen and arms. During the day it spread all over the body. It was raised and well defined at the edges. There was no sore-throat. On the 16th the rash had increased and had become markedly polymorphic. In parts it consisted of large raised erythematous patches. On the arms it was papular and on the chest and abdomen it was punctiform. The colour throughout was bright scarlet. An enema was given with little result. The temperature was normal in the morning and 100° in the evening. On the 17th the rash was still more profuse and the face was œdematous. The patient had only passed urine once in 24 hours. Four grains of calomel were given and later an enema, with at first no result, but after a second injection an enormous amount of fæces came away. The temperature was 99·4° both morning and evening and the pulse was 88. On the 18th the patient had slept well and the rash was fading. The pulse was 88 and the temperature was 100·8°. After an enema there was again an enormous motion. The evening temperature was 101·6°. On the 19th the temperature was 99·8° and the rash looked much more like measles, only it was of a bright-red colour and very irritable. In the morning the temperature was 103·6° and the pulse was 124. The patient was said to have had a rigor. An enema was given with very little result. The lochia had almost ceased. On the morning of the 20th the temperature was 100·2°. The feet and hands were red and œdematous and were covered with a sudaminal rash. There was intense irritation. There were red marks like scalding around the mouth and eyes. The uterus was contracting normally, there was no tenderness, and the lochia had quite ceased. The urine was acid, containing no albumin, and there was a large precipitate of urates. The evening temperature was 102·2° and the pulse was 100. On the 21st the morning temperature was 99·8° and the pulse was 80. The œdema of the face and hands was much less marked, but the rash had come out thickly again over the abdomen. The evening temperature was 101·8° and the pulse was 100. There was an enormous motion after medicine and enema. On the 22nd the morning temperature was 99·8° and the pulse was 88. The face and lower part of the back had begun to desquamate. There was a small amount of discharge from the vagina on that day. The evening temperature was 101° and the pulse was 90. The patient was passing large quantities of urine. There was desquamation all over the body, mostly in fine dusty particles, but the feet and hands peeled in large flakes. The bed was full of scales each morning. On the morning of the 23rd the temperature was 99·2° and the pulse was 72; in the evening the temperature was 100·2° and the pulse was 78. By the 25th the temperature had fallen to normal. On Dec. 5th the patient had a few dates. On the 6th there was some œdema of the face and the rash reappeared over the face and the neck. The temperature was 100·4°. On the 7th the temperature was 99·6° and there was a recrudescence of the rash upon the chest. From this point convalescence was uneventful, though the peeling continued till the end of December.

I have never seen any case of gastro-intestinal poisoning in which the rash has been so prominent a feature, but a patient whom I have attended in two confinements has on each occasion had a pulse of from 96 to 100 from the time of delivery up to that of the bowels being opened on the third day, while contemporaneously with the opening of the bowels a very irritable, bright-red, papular rash has appeared over the chest, on the flexor surfaces of the wrists, between the fingers, and on the insteps. One is reminded of the rashes sometimes seen after administration of an enema which must be attributed to the absorption of some poison from the intestinal tube. It would be a matter of extreme interest in these cases to test the urine for the presence of ptomaines and to determine the proportion between the simple and ethereal sulphates in order to see if there was any evidence of an abnormal amount of bacterial action going on in the intestinal tube.

My reason for publishing these few notes is to suggest that the rôle of the intestinal tube in infections during the puerperium is wider than it is generally supposed to be. The first of my two cases was certainly sapræmic, though the infective material was not all got rid of by the first enema. I think that it is a question whether in the second case the infecting material had not gained a footing in the living tissues—possibly only in the walls of the intestine.

Cases both of septicæmia and pyæmia have been described in which the infecting organism has been found to be the bacillus communis and it is much easier to suppose that the infection in those cases has taken place through the walls of the intestine rather than through a wound in the genital tract. It is known, as a matter of fact, that during the puerperium the resistance of the body against microbic invasion is very markedly diminished. It is but natural, then, to suppose that this loss of defensive power will be as apparent in invasion from the intestinal tube as in the more usual invasion from the genital tract. It does not need for me to point out the importance of a prompt diagnosis between these cases and those of ordinary septic infection. I cannot find out any definite symptoms marking off these intestinal cases. Of course there will be absence of symptoms pointing to the genital organs and, in my experience, there are always much flatulence and a good deal of complaint of abdominal pain which is usually localised in the upper quadrants of the abdomen. There is by no means always a history of constipation, though in such cases as I have seen there has been evidence when the bowels were moved that there had been retention of fæces.

Newcastle-on-Tyne.

PRIMARY CARCINOMA OF THE AMPULLA OF VATER.

BY F. DE HAVILLAND HALL, M.D., F.R.C.P. LOND.,
PHYSICIAN TO THE WESTMINSTER HOSPITAL AND JOINT LECTURER ON THE PRINCIPLES AND PRACTICE OF MEDICINE IN THE MEDICAL SCHOOL, &c.

IN view of the rarity of primary carcinoma of the ampulla of Vater I think that it is desirable to put on record the following case.

I first saw the patient, a man, aged 46 years, on Oct. 6th, 1900, in consultation with Mr. G. W. Simpson of Lamberhurst. The patient stated that he had been quite well until the preceding August; then he had a febrile attack (the temperature was from 103° to 104° F. for two days), accompanied with pain in the head and limbs. The attack closely resembled influenza. After three or four days the temperature became normal and the patient suffered from itching and flatulence. About a week later he became jaundiced and he felt ill, but there was no vomiting, diarrhœa, or pain. This condition continued up to the time that I first saw him. On examination the thoracic viscera were found to be normal. The liver was uniformly and greatly enlarged, reaching nearly to the umbilicus, and the distended gall-bladder could be made out. The motions were clay-coloured and the urine was bile-stained. The temperature was normal. The patient had lost about two stones in weight since the commencement of his illness. Previously to the present illness the patient's health had been excellent; there was no history of enteric fever, pneumonia, or any other serious affection. He was ordered chloride of ammonium (20 grains) every six hours.

I did not see the patient again until he was admitted into the Westminster Hospital under my care on Jan. 5th, 1901. On admission he was deeply jaundiced. The liver could be felt three or four fingers' breadth below the costal margin; it was hard and rather tender and it appeared to be regularly enlarged. The gall-bladder was distended. The spleen could not be felt. There were no ascites and no œdema. The stools were semi-solid, clay-coloured, and very offensive. The urine was acid, bile-stained, and free from albumin and sugar. The temperature on admission was 98°. On the 7th it rose to 102·4°, falling next day to 97·6°, but there was

another rise on the 9th to 104°. The patient became comatose at 4 P.M. on the 9th, having previously complained of severe headache for some hours. On the 10th the temperature gradually and steadily rose and at 5 A.M. on the 11th it was 107° and the patient died.

A necropsy was made eight hours after death by Dr. W. S. Lazarus-Barlow, when the body was found to be moderately nourished, with intense bronze jaundice. The hair was iron-grey. The lungs weighed respectively the right 32 ounces and the left 28 ounces, and were emphysematous anteriorly and congested with localised patches of semi-consolidation posteriorly over both organs. The larynx, the trachea, and the bronchi were congested and much mucus was found therein. The bronchial glands were large and soft; the pleuræ and the pleural cavities were normal. The pericardium contained bile-stained fluid. The heart weighed 12 ounces; it was flabby but fairly normal otherwise, the edges of the mitral flaps being rather thicker than normal. The great blood-vessels also were normal. No ascites was found in the abdomen. The liver weighed seven pounds; it was enlarged and of a deep green, almost black, colour. Its substance was fairly firm. The bile passages were much dilated throughout the organ. The gall-bladder was dilated and full of pale-green bile of a watery consistence. The cystic duct was much dilated and the common bile duct was sufficiently large to admit the little finger in its main course. At the papilla in the duodenum the orifice was of the normal size, but the whole papillæ and a small portion of the duct behind the opening were enlarged and firm, so that a mass of the size and somewhat of the shape of a small bean lay beneath the duodenal mucous membrane. The pancreatic duct was much dilated and bile could be made to flow through the unopened papilla by pressure on the gall-bladder. On slitting up the common duct from the papilla it was seen that there was a soft and ulcerating mass of material lying immediately within the orifice. From the surface of this a fluid having the appearance of pus could be scraped. The mass surrounded the entire lumen but did not extend further along the duct than about three-eighths of an inch and it did not invade deeper tissues. The tail of the pancreas was very dense but the head was of normal consistency. Wirsung's duct was dilated throughout. The spleen weighed 13 ounces; it was soft and large. The kidneys weighed respectively the right nine ounces and the left 13 ounces. They were highly congested and bile-stained and were apparently the seat of a tubal nephritis. The adrenals were normal, as also were the bladder, the stomach, the œsophagus, and the intestines.

Microscopically the growth was a columnar cell carcinoma. The position of the tumour and its relationship to surrounding parts is well shown in the accompaning illustration.

In THE LANCET of Feb. 16th, 1901, p. 467, will be found an excellent paper by Dr. H. D. Rolleston on Primary Carcinoma of the Ampulla of Vater. Of the 21 reported cases he regarded about seven as being above suspicion. "Most of the remainder are either carcinoma of the termination of the common bile duct or of the duodenal surface of the biliary papilla."

In the case under consideration there are several points of interest. In the first place, the patient complained of intense itching for a week previous to the appearance of jaundice. The cause of the itchiness in these cases is not known, but its occurrence in hepatic disorders independently of jaundice seems to show that it is not due to the bile pigment. In Halsted's case of "Primary Carcinoma of the Duodenal Papilla and Diverticulum of Vater"[1] the patient's first symptom was "itching of the skin, which came on suddenly and soon became severe." Next the absence of vomiting, diarrhœa, and pain is deserving of attention. The combination of jaundice with enlargement of the liver and a distended gall-bladder clearly pointed to some obstruction in the common duct. The suddenness of its occurrence seemed to exclude malignant disease and the absence of pain negatived gall-stones, so that I was inclined to regard the case as one of catarrh or swelling of the common duct, though in a case of this sort I should have expected to have found signs of gastro-intestinal derangement, such as vomiting and diarrhœa; moreover, the amount of liver enlargement and the distension of the gall-bladder struck me at the time as being very unusual. The last point to which I wish to direct attention is the temperature. The rapid rise of temperature which occurred on the second day after the patient's admission into the hospital was due, I believe, to the broncho-pneumonic condition. In looking back over the case one can see that the possibility of a new growth within the common duct or in the ampulla should have been considered, but the extreme rarity of the condition led to its being overlooked. The case illustrates the great complexity of the problem to be solved in endeavouring to arrive at the cause in any given case of jaundice.

A, Opening of the right and left hepatic ducts. B, Stomach. C, Opening of Wirsung's duct. D, Growth in the ampulla of Vater. E, Head of the pancreas. F, Duodenum. G, Site of opening of the cystic into the common duct. Opening of the cystic into the common duct = circle three-quarters of an inch in diameter. At the ampulla immediately above growth = one and a half inches.

As regards treatment there is little to be said. The result of operative interference in Halsted's case is not encouraging. Though the immediate result of the operation was good the patient died some 15 months later from recurrence of the carcinoma in the head of the pancreas and duodenum. The lesson taught by this case is the necessity for an early diagnosis so as to ensure the complete removal of the growth.

Wimpole-street, W.

[1] The Johns Hopkins Hospital Bulletin, No. 106, January, 1900.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

POISONING BY IRISH YEW.

BY A. STANLEY BARLING, M.R.C.S. ENG., L.R.C.P. LOND.,
HONORARY SURGEON TO THE ROYAL LANCASTER INFIRMARY; SURGEON TO HIS MAJESTY'S PRISON, LANCASTER CASTLE, AND TO THE LANCASTER POLICE FORCE AND FIRE BRIGADE.

So far as I am able to learn the following is the first case recorded of poisoning by Irish yew. The plant was mistaken for savin and taken by a woman, aged 24 years, who was three months pregnant for the purpose of procuring abortion. The leaves and twigs of the tree were placed in a pan and packed tightly so that the vessel might hold as much as possible. The pan was then filled with water and the whole was boiled for some hours. At the end of that time the pan was

about two-thirds full of a black liquid. An ordinary teacupful of this was taken by the woman three times a day. For three or four days nothing unusual was noticed but then the patient began to have what she described as a feeling of pins-and-needles at the pit of the stomach. This got worse and she began to feel ill. At the end of a week nausea and slight griping pains in the abdomen were experienced. On the next day there was some vomiting and the pains were more severe. After a fortnight—during the whole of which time the administration of the decoction was continued in the same doses—the pain was most severe, the vomiting almost incessant, and the patient became unconscious. She remained so for some hours. She was so ill that she was thought to be dying. There was no delirium. After this she refused to take more than one teacupful a day which she continued for a week, not feeling any ill-effects, and then gave it up. Abortion was not induced and six months afterwards she was delivered of a full-term child which had been dead for a short time.

This woman suffered from most of the symptoms of poisoning by the common yew (*Taxus baccata*). Her recovery after taking what appear to be enormous doses may be due either to the vomiting, though this did not occur until she had been taking the stuff for at least a week, or to the possibility that the Irish yew is less poisonous than is its relative.

The poisonous principles of yew do not seem to have been investigated with any thoroughness. We are told that the active principle is an alkaloid named "taxine," but what are its nature, formula, and properties I have failed to discover. It would be most interesting to know also whether this is found in all varieties of yew and in what proportions.

Lancaster.

DIPHTHERIA IN THE NEWLY-BORN.

BY GEORGE A. AUDEN, M.A., M.D. CANTAB.

DIPHTHERITIC infection of the newly-born child appears to be an accident of extreme rarity. Dr. Abraham Jacobi[1] makes an indirect reference to some cases quoted by him in 1880 and these are probably the cases to which Professor William Osler refers in the recent edition of his "Practice of Medicine." Apart from these scant references I have not been able to find any published account of the occurrence. The confirmation of the clinical diagnosis by the result of a bacteriological examination gives additional interest to the following notes.

On the evening of May 12th, 1901, I attended a woman, aged 35 years, in her second confinement, when she was delivered of a full-time healthy child. On May 20th, the eighth day, a greenish, slightly blood-stained, discharge was noticed issuing from the left nostril of the infant in sufficient quantity to stain the pillow. He became fretful and began to take the breast indifferently. On the following morning there was an acrid sanious discharge from both nostrils which soon became excoriated. The child was very fretful and refused food. An attempt to examine the fauces was unsatisfactory and revealed nothing. On the tenth day (May 22nd) there was much nasal discharge, the nostrils being almost occluded. The child breathed with difficulty and with a little inspiratory stertor. There was no recession of the chest walls but the child was somewhat cyanosed and there was great difficulty in getting him to take food. There was a moderate degree of diarrhœa, the pulse was imperceptible, and the temperature was 101° F. Both fauces were seen to be œdematous and upon each tonsil there was a typical patch of membrane. 200 units of antitoxin were at once injected and repeated in four hours and again in the evening, by which time the child's general condition had much improved. The temperature remained at 101°. On the eleventh day (May 23rd) there was less difficulty in breathing but the discharge from the nostrils continued. The temperature varied between 100° and 101°. The child took the breast every two hours. Dr. C. P. White (demonstrator of pathology, Yorkshire College, Leeds) reported on a swab taken on the previous day: "Undoubted diphtheria bacilli in the swab; long forms showing marked segmental staining; streptococci also present." On the twelfth day a slight nasal discharge continued; there was still some exudation on the right tonsil. The bowels were still loose with greenish stools. The temperature was 100°. The child took the breast and slept well. On the thirteenth day the temperature was 98·6°; there was no sign of exudation on the tonsils and the pulse was good. On May 31st the mother's right breast became very inflamed and an abscess appeared to be imminent. The inflammation, however, subsided under treatment. She stated that one month before the child was born she had suffered from a very severe sore-throat which had continued to cause difficulty in swallowing until a week before the confinement. The sanitary arrangements of the house appeared to be satisfactory and no external source of infection could be discovered. There were never any indications of paralytic symptoms and the child is now remarkably robust and healthy.

Although there is no doubt that breast-fed children are less liable than others to contagious or infectious disease, it is difficult to harmonise the facts of the above described case with the theory put forward by Schmid and Pflanz[2] that the maternal milk possesses antitoxic properties. In the present instance the mother fed her child throughout his illness and so far from transmitting any antitoxic elements may herself have been the source from which the infection was derived, for the severe sore-throat from which she suffered immediately before her confinement may not improbably have been due to the specific diphtheria bacillus.

York.

[1] Article on Diphtheria in Stedman's Twentieth Century Practice of Medicine, vol. xvii., p. 78.

[2] Wiener Medicinische Wochenschrift, No. 42, 1896, quoted by Jacobi loc. cit.

A CASE OF RUPTURE OF DUPUYTREN'S CONTRACTION.

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IN October, 1900, a man, aged 45 years, was seen at St. George's Hospital with the following history. For 15 years he had suffered from a gradually-increasing contraction of the ring and little fingers of the left hand. There had been no obvious cause to account for this contraction which had put him to great inconvenience; there was, however, a well-marked family history of gout and he had suffered from gout himself. Whilst walking down Piccadilly he had tripped over his stick and fallen heavily on to the kerb, his left hand receiving most of his weight. He heard a "loud snap" and found that his fingers had been forcibly straightened, the skin at the root of the little finger being torn. When seen at the hospital there was a gaping wound at the base of the little finger about three-quarters of an inch long. The tendon of the flexor sublimis digitorum was exposed at the bottom of the wound with its tendon-sheath intact; there was slight hæmorrhage but the digital nerves were apparently uninjured. At the base of the ring finger there were some extravasation of blood and swelling. Both fingers were now quite straight. The wound, which had been contaminated with dirt, was thoroughly scrubbed with 1 in 2000 mercuric biniodide solution and a rough splint of pure tin was moulded to the fingers, the wound healing by granulation. Both fingers were vigorously moved daily, this somewhat retarding the healing of the wound which took place in about four weeks. At the end of this time the patient was discharged, being told that the contraction would return unless the fingers were thoroughly exercised and kept straight. These instructions were conscientiously carried out, and when seen in January, 1902 (15 months after the accident) there was no sign of re-contraction and full movement of both fingers was possible. The slight contraction of the palmar fascia which was noticed before, of course persisted.

Accidental rupture of Dupuytren's contraction is a very rare accident and the above case is interesting as showing that this accident may occur, not only without harm, but even with much benefit to the patient. The most noticeable point in the case is that there was no sign of recurrence of the deformity; the slow progress of the disease, however, may account for this. Mr. W. Anderson, in his Hunterian Lectures on Contractions of the Fingers, related a somewhat similar accident. In this case a contracted finger in Dupuytren's deformity was torn by the handle of a railway carriage and was set free, but the benefit was only temporary. Dupuytren originally practised division of the contracted cords and the superjacent skin in

this disease, straightening the finger with a splint. Suppuration unfortunately appears to have been common and "if the patient recovered without the loss of his hand" the process of cicatrisation restored the deformity in a more hopeless and distressing form than ever. This case therefore seems exceptional in that open rupture of the tendon has so far proved curative.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv., Proœmium.

ST. MARY'S HOSPITAL.

THREE CASES OF OPERATION FOR SUSPECTED STONE IN THE KIDNEY, WITH CLINICAL REMARKS.

(Under the care of Mr. EDMUND OWEN.)

THE utility of the Roentgen rays in the diagnosis of renal calculi is very small and we fully agree with Mr. Owen that the employment of this diagnostic means may induce a patient to decline operation though a calculus is present in the kidney. The ordinary uric acid stone gives hardly any image on a sensitive plate but the calcium-oxalate calculus and the phosphatic stone may give definite evidence of their presence. In Cases 1 and 2 renal calculi were found and were removed, but in Case 3 although the signs and symptoms were marked yet no stone was found. An experience like this must have occurred to most surgeons and it is difficult to account for the symptoms, but it is still more difficult to explain why in most cases all the symptoms disappear after such an exploratory operation. Mr. Owen's clinical remarks, which are appended, are of great value.

CASE 1. (From notes by Mr. W. S. Hughes, dresser.)—The patient was a painter's labourer, aged 23 years. The symptoms first occurred in 1894. He complained of sudden stabbing pain in the right loin when he was at his work; the pain, which lasted about two hours, was severe, but was relieved by linseed-meal poultices. Two or three months later the pains recurred and had done so periodically since. He had been treated by medical men who had dieted him and ordered large draughts of barley water. The pain occurred only on movement, especially when there was any jolting, such as during an omnibus ride, and in going up or down a ladder. It was confined to the right loin and was "stabbing" in character. On Feb. 15th, 1902, a severe pain shot from the right loin to the right testis and apparently caused retraction of that organ. He vomited, sweated, and was collapsed; this attack lasted two hours. During the next week he had increased frequency of micturition and he said that his urine was "thick"; one day he passed a small stone by the urethra. He had no blood in his urine during that time, nor had he ever passed blood. The pain in the right loin had, however, persisted since this last attack, and he was admitted to St. Mary's Hospital under the care of Mr. Owen at the end of February, 1902. No abnormal signs, except tenderness and resistance in the right loin, could be made out. The kidney could not be felt. The urine was of specific gravity 1005, had an alkaline reaction, and contained a slight trace of albumin; no blood or pus or tubercle bacilli were discoverable. Mr. Owen cut down upon the right kidney on March 3rd, and a stone was felt in the pelvis of the kidney. A longitudinal incision was made through the outer border of the cortex, and the stone was extracted; it consisted of uric acid. It was of the size of a large filbert, smooth and rounded, and at one end there was a small rough surface from which a portion might have separated.

CASE 2. (From notes by Mr. J. E. Peachell, dresser.)—The patient was a carman, aged 24 years. Four years ago he was suddenly seized with severe pain in the left loin, when sitting in a chair. He had to go to bed; he vomited, and was in great pain till the following morning. For the next two months he had periodical recurrences of the pain which was always confined to the left loin. He had never passed gravel, or had blood in his urine. The attacks usually occurred after jolting, especially when he used the foot-brake of his van. In severe attacks he had usually vomited, and he found that if he lay down when the attack came on the pain soon ceased. He had not had increased frequency of micturition. Linseed poultices had given him more relief than other remedies, but when the attacks occurred as he was driving, he found that bending over to the right side, and supporting the left loin, gave him some ease. On examining, there was nothing to be made out beyond slight tenderness on deep pressure into the left lumbar region. The kidney could not be felt. The urine was of specific gravity 1015; alkaline; and contained a slight trace of albumin, a little pus, and a heavy deposit of urates and phosphates. On March 10th Mr. Owen cut down on the left kidney, and extracted five smooth faceted stones, consisting of uric acid, ranging in size from that of a small, to that of a large, pea.

CASE 3. (From notes by Mr. J. N. Kilner, dresser.)—The patient was a farm labourer from Cornwall, aged 17 years. He began to suffer from attacks of pain and tenderness in the left lumbar region at the end of January, 1902. The pain occurred first when he was sitting down one evening, and left him when he got up and moved about. At the first attack the urine was voided very frequently, but since then there had been no frequency of micturition. The urine had always been abundant, and had never contained albumin or blood. (Report from Dr. F. Chown of Hayle.) On Feb. 5th, 1902, the patient was seized with violent pain to the left of the umbilicus, and this lasted for six days, during which time he had little sleep and required large doses of morphia for relief. After three days of complete ease, the pain came on again and lasted for five days. Since then he had had pain, more or less every day. He was, therefore, sent up to St. Mary's Hospital by Dr. Chown, and he had two or three slight attacks of pain in the first few days after admission. He had no vomiting, rise of temperature, or pain in the testis or groin during the attacks, which had always come on when he had been lying down, and were relieved by his moving about. On examination there were distinct tenderness and resistance in the left lumbar region. The kidney could not be felt. The urine was of specific gravity 1017; acid; and contained no abnormal constituents. The genital organs were normal and there was no tuberculosis in his family. Stone in the kidney was considered to be the most likely cause of the symptoms, there being no other signs of disease of other organs. It was therefore considered advisable to explore the left kidney, and this was done on March 13th, but no stone was found in the kidney nor any morbid condition in that organ or its neighbourhood. It is now a month since the operation, and he has had no further attacks of pain. He is up and about apparently quite well.

Clinical remarks by Mr. OWEN.—Gentlemen, in the course of 10 days we have had before us in this theatre three men in whom we so strongly suspected the existence of renal calculus that we undertook the exploration of the kidney, but in not one of these cases—and this is the interesting point—had there ever been found blood in the urine. Some surgeons, I think, even at the present day would hesitate to operate for a possible stone in the kidney in the absence of the cardinal sign of hæmaturia. But the very proper anxiety of not making a mistake may be carried too far, and it is well to recognise the truth of a remark which was made a few years ago by an illustrious visitor to our country that the man who never makes mistakes never makes anything. After all, it is not a very dreadful thing to make a mistake in the matter of performing "nephro-lithotomy" for a patient with severe renal pain who has no stone; for, strange to say, in not a few cases in which the symptoms of renal calculus have been in classical order and no stone was discoverable on operation, the symptoms entirely disappeared after the negative operation. As to what may be the cause of such a clearing off of the symptoms after the operation I cannot say—any more than one can say how it is that after opening the abdomen for tuberculous peritonitis and then sewing it up again the patient may undergo a prompt and complete recovery. And of this, as you remember, we have had some most remarkable instances lately.

I have already called your attention to the fact that in none of these three cases of supposed renal calculus were the x rays used. And for this reason, that if there be a stone, small in size and composed of uric acid, the x rays

may give no sign of it. Then, if the surgeon and the patient have been relying on those marvellous rays for making the diagnosis certain and the indication for operation abundantly clear, the surgeon's judgment may be warped and the patient's courage entirely dissipated by the negative result of the investigation. And quite possibly the patient returns home without a very necessary operation having been undertaken. My practice, therefore, is to ask no help from the x rays when I am proposing to operate in a doubtful case of renal calculus. I do not want them traversing me, as it were, after a blank nephro-lithotomy and saying, "We told you so!" If the rays are to be used generally in doubtful cases the practice will be, I take it, disadvantageous in the long run, for if they are too much relied on they will prevent operation being resorted to in cases when it might have been of great practical value. So the undetected stone is allowed to remain in the kidney to the distress of the individual and the irretrievable damage of one of the most important organs in his body. I repeat, that the negative result of an x-ray search for a suspected renal calculus may be little short of a disaster, and I, for my part, never advise the patient to run the risk of inviting it. It is far better for the patient to take his courage in both hands and let the surgeon explore for the stone in the way which I shall shortly describe.

As regards the importance of the symptom of hæmaturia in the question of stone in the kidney, the first and second of these three cases make it quite clear that it is easily overestimated. The kidney may be occupied by a large, branching, coral-like stone which may be discovered only at a post-mortem examination, whilst there may have been nothing in the personal history to suggest that there had ever been any renal trouble. That is to say, a large stone may exist in the kidney and give rise neither to bloody urine nor to lumbar pain. It is the small stone which is loose in the pelvis of the kidney or in the cavity which it has hollowed out for itself in the renal tissues, which gives rise to bleeding and neuralgia. Yet in the first and second cases, though the stones were small, there had been no bleeding. In the second case it is evident that the stones were moveable, for their opposed surfaces had been polished by mutual friction, whilst in the first case, as you will remember, when my house surgeon, Mr. Hugh Raven, was feeling for the stone in the kidney, it quickly slipped from its nest into some neighbouring cavity from which we had some slight difficulty in extracting it. I repeat the interesting fact that though in those two cases the stones were not fixed, still there was no bleeding.

The third case proved a real disappointment to me, as I am sure it did to you! How complete the discovery of a stone—however small—would have rendered our little series. You may take it from me that there was no stone present, for Mr. Raven and I searched with such persistence and determination that if there had been one we must have found it; when we started the operation we certainly intended to find one. But I fully expect that the active treatment which the kidney has received will completely and at once free the man from his distressing symptoms. Dr. Chown will, I have no doubt, watch him and report to us further in due course.

Operation.—A few words about the operation. In each case I made an incision from the tip of the last rib transversely inwards over the erector spinæ. In two of the cases the sheath of the erector spinæ was opened. This is a matter of slight importance. What the surgeon particularly wants for this exploration is "elbow-room," and if he makes a niggard incision stopping short of the outer border of the erector spinæ (lest by chance he should open its sheath) he may be thereby hampering himself through the rest of the operation. I called your attention to the fact that one of these men had what the late Dr. Sibson called the "expiratory type of chest." That is to say, the chest was small and the ribs were sloping greatly downwards. In such a man the distance between the tip of the last rib and the border of the erector spinæ must be very slight; and, in order to get more room during the operation, I hooked my fingers under his rib and vigorously pulled it up, and, at the same time, with the fingers of the other hand hooked round the cut edge of the oblique and transverse muscles of the abdomen, I hauled them downwards. Then, as you may remember, the naked, outer border of the quadratus showed itself very conspicuously in the wound; this we pulled inwards, after the manner in which we had dealt with the rib, and so we got a clear access to the posterior surface of the kidney.

In the third case, having felt the kidney all over and squeezed it, fore and aft, between the fingers and thumb, I could find nothing. Then without saying whether I felt a stone or not, I asked Mr. Raven to search, hoping that he might succeed where I had failed. But it was not to be. What was to be done next? Put the kidney to rest and close the wound? No. Explore it all over with a needle? No; I do not believe in that method of searching for a stone. I have known the point of a slender needle springing off some fibrous band in the kidney give by its vibration the suggestion of a stone having been struck when no stone was present. Moreover, it is more than possible that if a small stone were present the needle might just happen to miss it. So I have given up the practice of "needling" the kidney in the search for a stone. What I do now is to complete the enucleation of the kidney and bring it out through the wound, so as to be enabled to make an unimpeded and very complete exploration. This disembedding of the kidney has to be done very gently, of course, and let me tell you that Mr. Jessop of Leeds has recently recorded an instance in which, when undue traction was being made in drawing out a kidney for inspection its pelvis was torn.[1] So the matter of bringing the kidney up on to the surface of the body is to be one of gentleness and coaxing. Then, as in our third case, another methodical exploration is to be made with the fingers and thumb, the ureter also being examined. This failing—as it did fail—the next and the last thing to do is to open the kidney and to explore thoroughly its interior with the finger, and on this question I have special remarks to make.

Opening the kidney.—Some few years ago I had the pleasure of being associated with Dr. B. Rice, of Leamington, in the case of a gentleman in whom he, Dr. Rice, had diagnosed a renal calculus. And, sure enough, when we cut down, there was a stone in the pelvis of the ureter. It was not an easy case: the patient was a hunting man with very muscular loins, and we were hindered by a good deal of bleeding. However, without much difficulty, I removed the stone by making an opening through the posterior part of the fibrous pelvis, and, the bleeding having ceased when we plugged the wound, all went well. But for about a year this gentleman was the subject of a most annoying urinary fistula, which eventually closed spontaneously. After that experience I made up my mind not for the future to attack a stone which happened to be in the pelvis of the kidney by making an opening through the fibrous wall of the pelvis—the expanded ureter, that is. Obviously, there is a greater risk of failure of prompt healing of a wound made through the fibrous tissue of the pelvis of the ureter than through the vascular, glandular substance. At the present time, therefore, I make it my business to arrive at a stone, whether placed in the pelvis or in the substance of the kidney, by making an incision through the renal tissue. This incision need not be made near to the hilum; indeed, it ought not be so placed, because the large branches of the renal vessels are traversing that part in their passage to and from the glandular tissue; but the nearer the vessels approach to the outer border of the kidney the more insignificant do they become. The convex margin of the kidney, therefore, is the part which should be incised for the exploration of the gland for a possible stone, and also for the removal of a stone from the pelvis. And the incision should, of course, be made vertically—in the direction in which the pathologist opens the kidney in the mortuary. I very much doubt if a renal fistula would ever follow on an incision so made into the kidney, but we all know that it is apt so to result from a wound of the ureter or of the pelvis. And the only way of exposing the kidney for making that incision is by "coaxing" the outer border up into the surface wound. When making an incision into the kidney at, or near, the hilum the hæmorrhage may be, often is, indeed, very free; but when the finger has been introduced through the convex border the bleeding is, as a rule, slight, as you have perhaps noticed in these three operations.

[1] Bradshaw Lecture, Dec. 11th, 1901.

ASPATRIA AGRICULTURAL COLLEGE, ASPATRIA (CUMBERLAND).—The annual distribution of prizes gained by successful students at this college was made by Mr. A. Hutcheson of Perth on April 15th. The chairman of the meeting was Sir Wilfrid Lawson, Bart., president of the college. By the kind permission of Sir Wilfrid and Lady Lawson the meeting was held at Brayton Hall.

Medical Societies.

MEDICAL SOCIETY OF LONDON.

Clinical Evening: Exhibition of Cases.

A MEETING of this society was held on April 14th, Dr. W. H. ALLCHIN, the President, being in the chair.

Dr. F. PARKES WEBER exhibited a case of Infantile Form of Articular Rheumatism with Chronic Enlargement of the Spleen, Liver, and Lymphatic Glands. The patient, a boy, aged four and three-quarter years, was regarded as a typical example of an affection which had been well described by Dr. G. F. Still and was usually classed as a variety of rheumatoid arthritis in children. In the present case there was some apparent enlargement of the knee and elbow joints, but the most marked change was the symmetrical swelling about the articulations of the hands and feet. The swelling, as investigated by the exploring syringe and Roentgen photographs, seemed to be due to infiltration into the peri-articular tissues, with little, if any, effusion into the synovial cavities. There was considerable limitation of movement in the cervical spinal column and this accounted for the extreme movements of the eyeballs which often gave the face a remarkable appearance. The spleen and liver extended considerably below the ribs and the lymphatic glands in the neck, axillæ, and groin were enlarged, but not greatly so. The urine was normal. The illness dated from November, 1900, when the boy had an acute disease, said to have been articular rheumatism. Before this he could walk and was apparently healthy. Occasionally there had been moderate fever and about the beginning of November, 1901, there was a definite attack of endocarditis and the heart, which previously had appeared to be healthy or only very slightly dilated, showed signs of disease of the mitral valve. It was this attack of endocarditis and the fact of pericardial adhesions having been found in other cases which made Dr. Parkes Weber think that the affection was more allied to articular rheumatism than to any forms of rheumatoid arthritis in adults. Cases like the present might perhaps be regarded as due to the same specific microbic infection as Dr. F. J. Poynton and Dr. A. Paine had shown to exist in acute and subacute rheumatism, the clinical differences being explained as modifications resulting from the age of the patients. In the same way tuberculosis in young children was clinically generally very different from tuberculosis in adults.—Dr. A. E. SANSOM could only regard the case either as one of rheumatism plus something else or as not being rheumatism at all. He did not regard the arthritis as one of rheumatic origin, the characters of which were a relatively painless effusion into the joints of a few weeks' duration. The cardiac lesion in this case was very slight in his opinion, if, indeed, any existed. The cases described by Dr. Still were in no way connected with rheumatism in his (Dr. Sansom's) belief.—Dr. EDMUND CAUTLEY agreed with the previous speaker, that the condition before them was not rheumatic in origin but was rather one of osteo-arthritis associated with rickets.—Dr. H. D. ROLLESTON also regarded the cases as rachitic associated with joint mischief. The latter was probably a septic condition and the heart was, in his opinion, clearly affected.—Dr. A. MORISON did not agree as to the existence of organic heart disease. The case was arthritidis supervening in a rachitic subject.—Dr. POYNTON had, with Dr. Paine, investigated this case bacteriologically but had not found the characteristic microbe of acute rheumatism. He referred to two cases which threw some light on the subject and which tended to show that rheumatism might occur in a malignant and non-malignant form.—Dr. PAINE referred to the two forms of joint mischief met with in rheumatism and mentioned some data elucidating the infective origin in these cases.—The PRESIDENT deprecated the use of the word "rheumatic" in these cases. He thought it was incorrect to assume that the age of the patient would modify a common disease like acute rheumatism to the extent met with in this boy.—Dr. PARKES WEBER, in replying, remarked that recent investigations tended to show that there was but one rheumatic poison, though the cases might differ clinically. No doubt this child was rachitic, but he adhered to the idea of the rheumatic origin of the case before the society.

Dr. WILLIAM EWART exhibited a female patient, aged 32 years, the subject of Chronic Nephritis, who had derived marked benefit from the treatment by drainage and feeding which he had advocated in 1898. The incisions at the ankles had drained continuously for four and a half months, enabling the patient during that time to take with conspicuous advantage abundant and various supplies of food. Since the spontaneous healing of the incisions early in January, 1902, she had enjoyed the same liberal dietary without any return of the sub-uræmic symptoms such as had previously been occasioned by a mixed diet. Under the influence of iron, mercury, and arsenic, which she was now taking, she was feeling strong and well, but the albuminuria persisted (about 0·4 per cent.) and there was still some slight œdema of the legs.—The PRESIDENT asked whether the treatment advocated had great advantages over frequent sweatings, which might, perhaps, be equally efficacious.—Dr. SANSOM assumed that the case was one of chronic parenchymatous nephritis and referred to a case in which after incisions into the legs these were put into a warm foot-bath every day for many days. The water of the bath became extremely ammoniacal. The uræmic symptoms improved but the patient died.

Dr. BERTRAND DAWSON exhibited a case of Syphilitic Fibrosis of the Lung occurring in a woman, aged 50 years. The onset of the illness was gradual, beginning nine years before with a hacking cough which did not, however, at first affect her health. When Dr. Dawson saw the patient for the first time, six years ago, the symptoms were sweating, cough, spitting, and slight hæmoptysis. There was slight and irregular fever and the fingers were clubbed. The physical signs were confined to the right chest and these could have been regarded as an active supervening on a chronic phthisis, with signs of cavitation, the latter most marked at the posterior base. The left lung was free. This case, however, was without doubt one of non-tuberculous fibrosis of the lung with some secondary bronchiectasis. There was a natural hesitancy to diagnose syphilis of the lung on account of its rarity and the difficulty of excluding other causes of pulmonary fibrosis. The facts in this case were, however, strongly in favour of syphilis because, first, the acute symptoms and signs in the chest ameliorated under iodide of potassium; secondly, the symptoms and signs especially characteristic of fibrosis came on subsequently to the anti-syphilitic treatment—that is, as the result of the healing of some active process; thirdly, that active process was not tubercle though its manifestations in part resembled those of tubercle (there was no history of pneumonia which often explained unilateral fibrosis); and, fourthly, there were evidences of tertiary syphilis antecedent to the chest mischief and there were definite signs of syphilis concurrently with the active lung trouble and healing simultaneously with it.—Dr. A. F. VOELCKER agreed with the diagnosis of syphilitic fibrosis and bronchiectasis of the lung. Possibly there had been a gumma around the bronchus and the fibrosis had arisen by causing obstruction. He referred to a case by way of illustration.—Dr. ROLLESTON remarked that the increase of the secretion from the lung might be due to the administration of iodide. When this drug was given in lung disease, especially with stenosis of the bronchi, it should be guarded by belladonna.

Dr. DAWSON also exhibited a case of Aortic Incompetency with well-marked Diastolic Thrill, and one of Phthisis in conjunction with Albuminuria and Paralysis of the Sixth and Seventh Cranial Nerves on the left side.

Dr. STCLAIR THOMSON and Mr. ALBERT CARLESS exhibited a case of Epithelioma of the Epiglottis and Base of the Tongue treated by Transhyoid Pharyngotomy. The patient, a man, aged 60 years, had complained for eight or nine months of a lump at the back of his throat which had gradually increased in size but did not cause much pain or inconvenience. There was a large indurated ulcer with raised everted edges extending over the epiglottis from near its base and encroaching upon the back of the tongue for nearly an inch. An enlarged and indurated gland could be felt beneath the angle of the left side of the jaw. On Sept. 4th the first operation of transhyoid pharyngotomy was performed after a preliminary tracheotomy. The growth was exposed and was removed by the scissors. The wound was partially closed and the tracheotomy tube retained. The patient subsequently did very well. The second operation for removal of glands was performed on Oct. 11th. The patient had remained perfectly

well since that date and there was now (18 months since the first operation) no sign of recurrence.

Dr. ROLLESTON showed a man, a French-polisher, aged 40 years, with Pigmentation, probably analogous to a blue line, of the Inner Surface of the Lower Lip. The teeth on contact with the lower lip were very foul and the gums showed a "blue line." There was no pigmentation on the palate and no reason to think that he had Addison's disease. It was thought that the blue line was due to lead absorbed in beer taken early in the morning.—Dr. VOELCKER did not regard the pigmentation on the lip as due to lead but only as a superficial staining due to contact with the abundant foul tartar on the lower front incisors.—Dr. M. E. LING recalled a case of lead-poisoning produced by the "tin-foil" in which packets of cocoa were packed.

Dr. STCLAIR THOMSON exhibited a case of Ulceration of the Ala Nasi, probably of syphilitic origin.

PATHOLOGICAL SOCIETY OF LONDON.

Tuberculosis in Sheep.—The Recognition of Tetanus by Extracting the Toxin from the Viscera after Death.—The Bacteriology of the Veldt Sore.

A MEETING of the Bacteriological Section of this society was held on April 15th, Dr. F. W. ANDREWES being in the chair.

Mr. ALEXANDER G. R. FOULERTON read a paper on a case of Tuberculosis in a Sheep. The specimens were obtained from a carcass which had been seized by Dr. George Newman, the medical officer of health of Finsbury. The carcass was much emaciated and there were extensive tuberculous lesions in the lungs, spleen, liver, and kidneys, and in the lumbar, dorsal, sternal, anterior mediastinal, mesenteric, and cervical glands. These lesions showed various stages of degeneration and calcification. No acid-fast bacilli could be demonstrated on microscopic examination. The inoculation of guinea-pigs, however, showed the nature of the case. Two animals inoculated died respectively 28 and 35 days after infection with a typical tuberculosis. Tuberculosis of sheep was extremely rare, a case published by Professor John McFadyean of the Royal Veterinary College in 1900 having been apparently the first case of the sort published in this country in which complete bacteriological proof of the infection had been given. This case showed that the sheep was susceptible to a natural infection in a high degree and infection could be experimentally conveyed by feeding or inoculation. The freedom which sheep enjoyed from tuberculosis was to be explained by their open-air habit of life. The factor which determined the freedom from tuberculosis amongst, for instance, Highland cattle as compared with the excessive prevalence of the disease amongst dairy cattle who were housed in confined, ill-ventilated byres was no doubt the difference of their environment.—Dr. ANDREWES remarked on the prevalence of tuberculosis among animals which led an indoor life. Cows which were kept shut up in sheds suffered more than bullocks which led an outdoor life. This would explain the relative immunity of sheep.—Mr. G. H. SHATTOCK agreed with Mr. Foulerton's views and said that when the suggestion was originally made that sheep were normally immune to tubercle he had attempted to cure tuberculous guinea-pigs by the injection of sheep's serum, but needless to say this was not successful.

Mr. H. J. WARING described a new method of Extraction of the Toxin of Tetanus from the Liver and other Solid Viscera of the Human Body. The details of the method were as follows. As soon as possible after death the viscera which were intended for investigation were removed from the body and as much blood as possible was squeezed out of them by pressure. The material was then minced into small pieces. It was then weighed and mixed with an equal quantity of pure glycerine in a closely-stoppered glass jar. The process of mincing and mixing should be carried out in a dark room or away from direct sunlight, since this soon caused the toxin to become inert. The jar was then placed in a cool dark cupboard and left there for three or four days, the jar being occasionally shaken. At the end of several days the mixture was filtered through glass wool so as to separate the glycerine and the substances soluble in it from the solid and insoluble débris. Details were given of a series of experiments on mice in which varying amounts of the glycerine extracts were injected into the tissues. These in most cases were followed by the development of symptoms which appeared to be those of mouse tetanus. Five cases of acute traumatic tetanus which terminated fatally in St. Bartholomew's Hospital provided the material for these investigations. He drew attention to the difference of the time of appearance of ordinary mouse tetanus and that induced by large doses of the glycerine extracts and explained the absence of the incubation period in these cases by suggesting that the toxin in the liver was probably in the form of a toxinogen. He also drew attention to the possible application of this method of investigation to the establishment after death of a correct diagnosis in those cases of patients who had presented indefinite symptoms of tetanus and in whom a bacteriological diagnosis had not been possible or had been negative.

Dr. ANDREWES also described experiments in which he had employed the method of Glycerine Extraction of the Spleen in cases of Doubtful Tetanus as a means of Diagnosis after Death. His results confirmed those of Mr. Waring. In the course of the past year he had met with two cases in which, during life, tetanus had been suspected but was not clearly present. In one of these the bile and the glycerine extract had failed to produce tetanus in animals and the post-mortem examination had revealed tuberculous caries of the dorsal spine which seemed fully capable of explaining the spasms observed during life. In the second case, which was that of a girl who developed trismus and other nervous symptoms 18 days after vaccination and who died from broncho-pneumonia, tetanus had been strongly suspected, and this was confirmed by the results of experiment. A glycerine extract of the spleen produced characteristic tetanus in mice, while in a mouse which received some antitetanic serum with the spleen extract the symptoms were much delayed and profoundly modified, although a fatal issue was not averted. Dr. Andrewes was of opinion that this method was likely to prove of great value in the diagnosis of tetanus after death. There could be no doubt in the minds of those who saw the experiments that the symptoms produced by the glycerine extract were truly those of tetanus, though they presented the novel feature of an absence of the incubation period invariably seen after the administration of tetanus toxin derived from cultures of the tetanus bacillus. The most reasonable explanation of this seemed to lie in the supposition that the filtered culture of tetanus bacilli contained a precursor of the toxin—a "toxinogen"—rather than the fully-formed toxin, whereas the glycerine extract from the viscera contained the fully-formed toxin, and its injection into mice was therefore unattended by any incubation period.—Dr. GEORGE DEAN pointed out that it was necessary before coming to the conclusions at which Mr. Waring and Dr. Andrewes had arrived to make certain that none of the substances employed were capable of giving rise to symptoms liable to be mistaken for tetanus. It had been well known for a very long time that it was possible to extract tetanus toxin from the blood or viscera of persons dying from the disease. But some observers had already described a "strychnine-like" substance extracted from dead bodies which could produce tetanus in mice without a latent period, though the results even in their own hands had been inconstant. Other observers had obtained tetanising substances from animals which had not suffered from tetanus. Moreover, there were other substances which, when injected into mice, could produce tetanic symptoms. He (Dr. Dean) had produced them by injecting one-third of a cubic centimetre of simple glycerine and the mice died. Very minute doses of ammonium sulphide and (as Blumenthal had shown and he, Dr. Dean, had confirmed) from one-quarter to one-half of a cubic centimetre of a concentrated solution of common salt were capable of producing in mice symptoms which were absolutely indistinguishable from those of tetanus. Great care was necessary before coming to the conclusion suggested by Mr. Waring and Dr. Andrewes.—Dr. W. BULLOCH agreed with the previous speaker and remarked that if the antitetanic serum referred to really neutralised the poison observed by Mr. Waring it ought to have done so in doses much less than 0·5 cubic centimetre.—Mr. WARING, in reply, said that as regards the glycerine extracts he had made several control experiments with glycerine alone but had never succeeded in producing tetanus in mice.

Mr. N. BISHOP HARMAN made a further communication on the Clinical and Pathological Characters of the Veldt Sore Prevalent amongst the Troops in South Africa. This skin lesion was found to affect on an average 20 per cent. of the combatants engaged in the war. Clinically it arose as a

blister beside some abrasion of the epidermis; it exuded a serous fluid, did not cause either marked damage to the dermis, lymphatic infection, serious pain, or constitutional symptoms. Microscopic sections of the sore showed the organism penetrating the stratum lucidum in advance of the blister formation. Evidence went to prove that the sore was of a scorbutic nature, being difficult of treatment in the field, but yielding without treatment on return to camp or town. There was no permanent cicatrix or deformity. The organism in the blister fluid was a coccus 0·8 μ in diameter, arranged in pairs, with signs of capsulation, staining with aniline dyes and by Gram's method. In culture it grew readily, producing yellow colonies of cocci in masses and an acid reaction. It was very resistant of destruction, it would survive drying for 61 days, dry heat at 110° C. for five minutes, moist heat at 86° C. for five minutes, and mixing with excess of 1 in 1000 solution of $HgCl_2$ for 40 minutes. He produced the lesion by inoculation of the blister fluid on himself and again to a lesser extent from the inoculation of remote subcultures (10 and 14). Inoculation on animals produced no particular features. By reason of the distinctive features of the lesion, the appearance of the organism in the blister, the luxuriance of the growths, and the great resistance to destruction exhibited by the organism, it might be considered to differ from the staphylococcus pyogenes aureus and be distinguished as the "micrococcus vesicans."—Dr. BULLOCH thought it unwise to draw conclusions based on the resistance of an organism to antiseptics; staphylococcus aureus would resist 1 in 1000 mercuric chloride up to 20 minutes. The features and effects produced by staphylococcus aureus depended very much on its sources and the soil on which it was grown, and there did not seem to him any essential differences between this ubiquitous organism and that described by Mr. Harman.—Mr. FOULERTON regarded it as doubtful, but on the whole he thought that there were essential differences between the two organisms.—Mr. GEORGE PERNET remarked that impetigo contagiosa assumed many different forms under varying conditions. Might not the "veldt sore" be an aberrant form of this disease? The clinical features of the sore described by Mr. Harman appeared to him (Mr. Pernet) to resemble very closely those of impetigo contagiosa bullosa, as met with in the East.—Mr. HARMAN, in reply, said that he had used many different strains of the staphylococcus aureus in his control experiments. The veldt sore microbe was always a diplococcus.

CLINICAL SOCIETY OF LONDON.

Cases Illustrating the Mode of Origin of Certain Cysts of the Neck.—Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery.—Cerebellar Abscess with Sudden Paralysis of the Respiratory Centres.—Simulation of Acute Peritonitis by Pleuro-pneumonic Disease.

A MEETING of this society was held on April 11th, Mr. HOWARD MARSH, the President, being in the chair.

Mr. THOMAS CARWARDINE (Bristol) read a paper on Cases Illustrating the Mode of Origin of Certain Cysts of the Neck. Cysts and fistulæ arising from the thyro-glossal duct, he observed, usually had a pedicle which passed through the thyro-hyoid membrane in the middle line below the hyoid bone, between it and the thyroid cartilage. These, he suggested, might be termed *thyro-hyoid* cysts. He related the case of a man, aged 31 years, deaf and dumb and one of twins, with a fluctuating, superficial median tumour of the neck, overlapping the episternal notch and manubrium sterni, and a hard cord could be traced upwards from it in front of the cricoid cartilage. The pedicle was found to pass through an interval in the cervical fascia into the middle of the crico-thyroid membrane. It was evidently what he would call a *crico-thyroid* cyst. Two years later he met with a similar and homologous cyst in the space between the lower jaw and the hyoid bone in a lad, aged 12 years, who had noticed a lump in his throat for six months. The diagnosis of *hyo-mandibular* cyst proved to be correct at the operation. There were thus three median cysts—hyo-mandibular, associated with the first branchial or visceral cleft; thyro-hyoid, associated with the second cleft; and crico-thyroid, with the third cleft. He related a case of cystic hygroma in a baby a few weeks old in which the cyst, like a ranula, projected under the tongue. He described the anatomical relations of the cyst, observing that the cyst appeared to have originated in a lateral diverticulum of the first, or hyo-mandibular, cleft. He next referred to a tumour below the left angle of the lower jaw in a young man which proved to be a chondro-adenoma; also to a case of dermoid cyst of the whole of the first branchial cleft. His last case was that of a man, aged 33 years, who had had a swelling on the right side of the throat for two years which he thought had arisen from a diverticulum of the sinus pyriformis—i.e., from the third or fourth branchial cleft. He discussed the classification of these cysts according to their origin, into median and lateral, corresponding to the visceral clefts, and alternating with the visceral arches.—Mr. A. A. BOWLBY remarked that the relation of these cysts to the branchial clefts could not well be refuted. Those in the thyro-hyoid space were the most troublesome to deal with because part of the cyst generally arose behind the hyoid bone, and he mentioned a case in illustration which resulted in a fistula of five years' duration in spite of treatment. Epitheliomatous or malignant cysts should, he thought, be included among the lateral cysts.—Mr. STANLEY BOYD remarked on the difficulty of curing these cysts and referred to a case of median cyst resulting in fistula which only healed after three or four operations. The tract of this cyst went behind, not in front, of the hyoid bone.—Mr. A. E. BARKER asked whether cystic hygromata were not really of lymphatic origin. Some of those which he had operated upon were practically lymphatic nævi.—Dr. ST CLAIR THOMSON asked if any of the speakers had tried the efficacy of dividing the hyoid bone as originally suggested by Mr. Arthur Durham.—Mr. CARWARDINE, in reply, agreed as to the difficulty of curing the fistulæ resulting from these cases. Epitheliomatous cysts should certainly be classed with those arising from the branchial clefts. Some hygromata arose from these clefts, others were of lymphatic origin. Mr. Boyd's case suggested a hyo-mandibular origin. The suggestion of dividing the hyoid bone seemed to him to be a very good one.

Dr. W. J. TYSON and Mr. W. W. LININGTON communicated a paper on a case of Intestinal Obstruction due to Embolism of a Branch of the Superior Mesenteric Artery. The patient was a woman, aged 66 years; she complained of slight pain over the liver, sickness, constipation, and some epigastric tenderness, her temperature being normal. The symptoms gradually became worse and ultimately the vomit became "coffee-ground." Laparotomy was done and the small intestine was found to be slightly congested and adherent in the right fossa, where about a foot of gangrenous bowel, greatly thickened, was seen. The affected part, which was obviously due to thrombosis, was freely excised and the end united with a Murphy's button. She died 36 hours after the operation and post mortem atheromatous erosion of the descending aorta was found, with blocking of a branch of the superior mesenteric artery. Mounted specimens from the case were exhibited. Dr. Tyson then discussed the symptomatology of this condition, remarking that the symptoms were at first those of ordinary colic with a gradual change in the vomit. Constipation was the rule, but diarrhœa was often present, and later tympanites. The prognosis was always grave but not absolutely fatal.—Mr. J. R. LUNN referred to a case of Intestinal Obstruction due to Embolism of the Superior Mesenteric Artery consequent on compression applied on the distal side of an abdominal aneurysm of the abdominal aorta which arose at the root of the superior mesenteric artery. The symptoms were those of intestinal obstruction, small rapid pulse, and rapid breathing. Death was due to gangrene of the intestine caused by arterial thrombosis.—Mr. H. L. BARNARD referred to a case which at the time of the operation was thought to be embolism of the superior mesenteric artery, but at the necropsy acute thrombosis of the portal vein was found. There was acute gangrene of the whole of the small intestine. Total constipation was present in this case.—The PRESIDENT referred to the case of a man who whilst hunting fell in a prone position on a heap of stones. He was conveyed home but felt no ill-effects for 48 hours and even went to business. Sudden collapse supervened and the same evening an operation was performed and a piece of gangrenous intestine, four feet long, was found. The patient died and the superior mesenteric artery was blocked by an embolism which appeared to have arisen by the stretching of the artery.—Mr. BOWLBY referred to the case of a man who was admitted to St. Bartholomew's Hospital for gangrene of the finger supposed to be due to frost-bite. Shortly afterwards he was seized with abdominal pain, collapse, and vomiting.

and died in 18 hours. At the necropsy an ante-mortem clot was found in the left side of the heart and emboli from this had blocked the arteries of the digits and the superior mesenteric artery.—Dr. E. P. PATON referred to the case of a woman, aged 25 years, which resembled that mentioned by Mr. Barnard, in which no reason for the thrombosis could be discovered.—In reply to the PRESIDENT Dr. PATON said that the patient presented no evidences of gout.—Dr. TYSON, in replying, said that a large number of these cases had hæmorrhage from the bowel which was a feature of diagnostic value.

Mr. BARKER communicated a case of Cerebellar Abscess with Sudden Paralysis of the Respiratory Centre occurring in a girl, aged 14 years, who, three months before admission, had had scarlet fever with otitis media. A fortnight before admission she complained of ear-ache followed by great weakness and vomiting and rigors. The limbs were flexed and the head was retracted and there was dulness of intellect. Intracranial abscess with thrombosis of the lateral sinus and deep jugular vein was diagnosed, and it was decided to operate, but when the patient was lifted to be taken into the theatre respiration ceased, and in spite of artificial respiration and the inhalation of oxygen there was no sign of normal respiration though the heart continued to beat strongly. Artificial respiration was kept up for an hour, when, as normal respiration did not return, he made a small incision through the skull into the temporo-sphenoidal lobe. No pus was found, but on passing the needle into the lateral ventricle a large quantity of almost clear fluid was evacuated. He then opened the skull over the lateral surface of the cerebellum and reached foul gas and pus anteriorly. This, however, had no effect on the respiration or heart. Artificial respiration was kept up for another hour, but the patient was obviously dead, though the heart continued to beat as before for two hours and 35 minutes after natural breathing had ceased. Post mortem, a large cerebellar abscess was found in the usual situation.—Sir DYCE DUCKWORTH referred to a series of such cases which he communicated to the International Medical Congress at the meeting in Moscow. They all illustrated the fact that in these cases of cerebellar abscess the fatal process took effect first on the respiratory centre and then, some time later, on the cardiac centre. The inference was that the respiratory centre was more vulnerable than the cardiac centre. It was a curious phenomenon to observe when a patient absolutely stopped breathing although the heart continued beating.—Mr. BARKER, in reply, said that the reason why operation was not done earlier was because he was not certain of the diagnosis.

Mr. BARNARD read a paper on the Simulation of Acute Peritonitis by Pleuro-pneumonic Diseases. Modern writers for the most part did not include peritonitis in the differential diagnosis of pleurisy or *vice versâ*. The thoracic conditions which had given rise to these abdominal signs in Mr. Barnard's cases were—pleuro-pneumonia, three cases; pyopneumothorax apparently originating in the apex of the lower lobe, two cases; and traumatic pleurisy with fracture of the left lower ribs, one case. The abdominal signs and symptoms which resulted might be divided conveniently into parietal and visceral. The abdominal wall was acutely tender and painful. The muscles were in spasm so that the abdomen felt hard. The deepest anæsthesia was necessary to relax this spasm. Respiration was of the costal type. The patient frequently suffered from nausea, hiccough, and vomiting which might be urgent and bilious. In some cases the onset was sudden with collapse like perforative peritonitis. The diagnosis, however, was easy if once suspicion was aroused. The chief points were the rapid respiration (40 and upwards), the slow good pulse (under 100), and the fact that the abdominal wall softened momentarily at each inspiration. Direct signs of the thoracic condition were often wanting for 24 hours. The pathology was one of "referred pain" and divided itself into three heads: 1. Irritation in continuity of the lower six dorsal nerves would explain abdominal hyperæsthesia and spasm. 2. Referred visceral pain would explain the abdominal and head pain of an early broncho-pneumonia, phthisis or bronchitis not involving the pleura. Visceral impulses passed into the root ganglia of the seventh, eighth, and ninth dorsal nerves and exalted their excitability so that impulses from the skin to those ganglia became painful. Reflex spasm followed in the distribution of the nerves. 3. The visceral signs must be explained either by some reversal of this reflex or by direct involvement of the splanchnic nerves (from the sixth to the twelfth dorsal nerves) in or above the diaphragm.—Sir DYCE DUCKWORTH complimented Mr. Barnard upon his paper and remarked that it led irresistibly to two conclusions—viz., firstly, that medical cases such as supposed intestinal obstruction or peritonitis should be admitted to medical wards, and secondly that a thorough investigation of such cases by those accustomed to estimate the value of the symptoms of visceral disorders would in all probability obviate errors in diagnosis.—Dr. J. A. HAYWARD referred to a case exactly the reverse of those recorded where symptoms due to acute peritonitis simulated those of pneumonia. The patient presented all the typical signs of pneumonia with a well-marked pleural rub, but these eventually proved to be at the necropsy due to rupture of the appendix and acute purulent peritonitis. The lungs and pleura were perfectly healthy, excepting for the presence of two ounces of fluid in the latter.

HARVEIAN SOCIETY OF LONDON.

Functional Vaso-motor Disturbances.

A MEETING of this society was held on April 10th, Dr. ROBERT MAGUIRE, Past-President, being in the chair.

Dr. R. L. BOWLES read a paper on the Practical Treatment of Functional Vaso-motor Disturbances. After referring shortly to the physiological, anatomical, and experimental evidence of vaso-motor action Dr. Bowles gave, as examples of functional disturbance, the dilatation of the large vessels after severe exertion, the pulsating dilatation of the abdominal aorta in neurotic women, and pulsating dilatation of the carotids in the anæmic and of the temporal arteries in headache and neuralgia. He pointed out that the venous system and the heart were liable to similar partial and temporary fluctuations. Vague pains and loss of power in the lower limbs, so often ascribed to sciatica, were shown in some instances to be due to functional disturbances of the blood-supply. Other functional disturbances, such as blushing and pallor, the symptoms often present at the "change of life," the effects of vaso-motor action on the central nervous system, the vaso-motor symptoms in exophthalmic goitre and myxœdema, and intestinal phenomena due to similar causes were also referred to. In some cases Dr. Bowles thought that the symptoms were due to toxins acting through the nervous system and in others that they were due to derangement of function arising from fatigue. Many other vaso-motor effects were lightly touched upon, such as chilblains, "dead fingers," and Raynaud's disease. For treatment Dr. Bowles insisted upon the importance of heat, light, electricity, massage, baths, change of scene and surroundings, and so forth. He did not bring forward any wonderful novelty or so-called specific, but, as the result of a great many years' trial and experience, he strongly recommended the persistent use of valerianate of zinc in doses of one grain three times a day. In neurasthenia he had had most beneficial results from the effects of valerianates, and he quoted an instance of nerve deafness in a woman who had been stone deaf for eight years and who had been told that there was no hope of recovery. After two and a half years of the persistent administration of the valerianate of zinc the patient completely recovered her hearing. He had also found the drug of great use in the treatment of tinnitus aurium and in many other nervous conditions; so much so, that he had come to rely upon the drug very largely in all cases of the neurasthenic type.

Dr. ALEXANDER MORISON said that Dr. Bowles appeared to have seen a good number of specimens of local vascular change in the carotid, the subclavian, and the veins of the lower extremities. Some of those conditions might be described as intermittent claudication, a subject which had been vigorously worked at by some French physicians and applied largely to certain visceral disturbances which were regarded by some as of vaso-motor origin, but without acknowledging the fact that the idea was due to Burns of Glasgow, 70 or 80 years ago, whose work would now repay careful perusal, as it was the origin of several twentieth-century theories. He agreed with Dr. Bowles's judicious remarks in distinguishing cases of claudication from those of neurasthenic origin. He was glad to hear of such good results from valerianate of zinc, as he himself was somewhat sceptical of its therapeutic value. But in the case of a drug

taken persistently for two years, as mentioned by Dr. Bowles, the factor of time and the altered circumstances and conditions possible must not be lost sight of.

Dr. PARKES WEBER said that the question of contraction of vessels was a most important one, as such contraction could produce an immense effect. It had been proved practically by microscopical examination that veins could so contract that the lumen was almost obliterated. He had had the opportunity of examining gangrene of the extremity in which examination afterwards showed no very considerable organic disease and the conclusion almost necessarily arrived at was that the obstruction was above the part examined. If the blood was not circulating properly in the foot or hand there was evidently plenty of blood there, and as there was no sign of arteries being contracted the suggestion was that the small veins were contracted. In some typical cases of Raynaud's disease only the small arteries were contracted. In Dr. Bowles's case, in which an enema was vomited some time afterwards, evidently there was some disturbance of peristalsis analogous to what happened in the circulatory system. He once saw a case in which an enema coloured with methylene blue was vomited 10 minutes afterwards. This was done repeatedly and he thought that there must be in such a case an anti-peristalsis.

Dr. CAUTLEY said that most of the cases mentioned by Dr. Bowles in his paper seemed to be beyond the first half of life, but he (Dr. Cautley) had been inclined to regard vaso-motor disturbances as more common in the earlier periods of life and more so in females than in males. He asked what was Dr. Bowles's experience in the matter of age in cases of local dilatation of arteries and what was the prognosis apart from the results for the time being. Was there any tendency to atheroma or aneurysm later? He was sceptical about the value of a drug which required to be persisted in before any definite results accrued. But such a case as that quoted showed that treatment was of benefit, because the patient was of that age at which her deafness would tend to increase rather than to disappear.

Dr. MAGUIRE regarded some of the cases quoted as having an organic basis—i.e., organic blocking of vessels. It was difficult to be definite on such a subject as vaso-motor disturbance. But one knew that a person who came with blue-red hands, freely perspiring, was slack; and if the skin of such persons were pressed upon the colour would return very slowly. It was not very satisfactory to make the test on the hands because much depended on the extent of exposure, but valuable indications could be obtained on the skin of the chest. He drew attention to disorders of the cerebrum due to vaso-motor disturbance. Those who had seen many cases of general paralysis of the insane would appreciate that a case might show itself not by melancholia or grandiose ideas but by sudden aphasia for a moment or two. He had not seen much benefit result from valerianate of zinc, although he had generally given it in larger doses than had Dr. Bowles. Two drugs of great value were musk and castoreum. The first was too expensive to be within the reach of ordinary patients, but in doses of five grains three times a day its effect was very good. Castoreum was obtained from the preputial glands of the beaver, musk coming from the same glands of the musk ox. Castoreum should be given in from 10 to 20 minim doses with an alkali. It was unpalatable and bad smelling but was very useful.

Dr. BOWLES replied.

OTOLOGICAL SOCIETY OF THE UNITED KINGDOM.

Discussion on an Examination of the Ears of 1000 School Children.

A MEETING of this society was held on April 14th, Dr. URBAN PRITCHARD, the President, being in the chair.

A report by Mr. ARTHUR H. CHEATLE upon the Examination of the Ears of 1000 School Children was presented and discussed. Mr. Cheatle, in opening the discussion, said that the objects which he had in view in undertaking the investigation were twofold—first, to ascertain the amount of ear disease in the children of the poorest class; and secondly, to draw attention, if necessary, to the subject in the hope that steps would be taken to deal with it. The classification of the lesions met with presented difficulties which were very great and he had no doubt that criticism might justly be directed against the one adopted, and also, perhaps, against the method of examination. For instance, objection might be taken to the use of the term "normal" which was used in the report to mean that the membranes appeared normal, and that the hearing was sufficient to pass the whispered voice test at a distance of 18 feet. The fallacies of this test were alluded to in the report, but in the circumstances it was the only one possible in the great majority of cases and it was of the greatest value in picking out children with diminished hearing. For purposes of comparison it would be of great interest, he said, if an investigation could be conducted amongst children of the better classes who lived under better conditions. The schools at Hanwell, however, were practically perfect from a hygieric point of view and the lives of the children were essentially healthy. He regretted that he had not been able to classify those who had lived almost all their lives in the institution from those who had come as temporary lodgers. Inability to pass the test with one or both ears was present in 520 out of the 1000 children. Many of these, especially in the group of depressed membrane associated with adenoids, had not been noticed by their teachers to be deaf, the deficiency only being detected upon examination. This point was of the utmost importance, for if children so affected were to be saved from deafness in later life childhood was the time for treatment. It amounted to this, that unless children were systematically examined any deficiency in hearing would pass unnoticed and untreated until it became so great as to interfere with the future work of their lives and then perhaps treatment would be of little avail. Mr. Cheatle considered that all children, whatever their station in life, should at some period be thoroughly examined; the period that would be best for the purpose would be open to discussion, but he suggested the age at which they should be able to give intelligent and trustworthy answers to simple tests, unless anything amiss in the hearing had been noticed earlier. Passing to further details in the report he said that the comparatively large number of foreign bodies in the ears was noteworthy; 12 of the 18 cases occurred in girls. The children were all unconscious of their presence. Mr. Cheatle said that he was not positive whether congenital perforation in Shrapnell's membrane did occur; the eight instances recorded suggested that it did. The association of depressed membranes with deafness and adenoids was well marked. Out of 166 cases, in 141 there were adenoids. Of the cases classified as sclerosis deafness was present in all; the membrane appeared to be normal and slight improvement resulted from inflation. They all occurred in girls. It was little less than appalling to realise that 335 of the 1000 children examined were, or had been, the subjects of discharge from one or both ears; 88 of these might be spoken of as walking on the edge of a precipice and six as being at least half over. Of the 88 cases in which suppuration was present in 71 there were adenoids and in 13 there was granulation tissue in the ear. The number who had previously suffered from chronic middle-ear discharge was 247; of these 171 had adenoids and a dry perforation was present in 57. It appeared from the statistics that the left ear was less liable to infection than the right, for out of the combined past and present suppurative cases, numbering 335, both ears were affected in 126, the right in 127, and the left in 82. The association of adenoids with ear disease was most marked; they were present in 434 children, of whom 394 presented some aural troubles. Mr. Cheatle finally raised the question as to what steps should be taken in the matter by the authorities. To his mind it was a matter that they could not afford to neglect; it was of no use to leave it in the hands of the parents, for many cases of commencing deafness could only be detected on careful examination and, moreover, childhood was the time for treatment. He recommended that the systems employed in Germany, Switzerland, and Sweden should be investigated and reported upon. The one now in force in Germany would probably be the most applicable, as it dealt with a large population. He had heard from Dr. Arthur Hartmann of Berlin that in the majority of the large cities in Germany physicians were appointed to the schools to examine especially the eyes and the ears and to see that treatment was applied when necessary. From Dr. Guye of Amsterdam he had heard that there was a movement to have medical officers for similar purposes in the

schools in Holland. The carrying out of any such system would necessitate having a large number of sufficiently trained men. At present the majority of the examining bodies in this country did not recognise that such a thing as a disease of the ear ever occurred and that otology was a necessary part of a student's curriculum, yet diseases of the ear, Mr. Cheatle did not hesitate to say, caused an immeasurably greater amount of loss of health and life than did those of the eye.

Mr. GEORGE MURRAY reported that he had conducted a similar investigation upon the ears of 400 school children in a school at Greenwich. The average age of the children was nine and a half years; he had met with deafness in 18 boys and 25 girls, giving a ratio per 1000 which was similar to that reported by Dr. Rohrer of Zürich.

Dr. S. G. LITTLEJOHN, medical officer to the Hanwell School where Mr. Cheatle's investigations were carried out, raised the question whether residence in a large barrack school increased the number of cases of adenoids and resulting ear disease. Personally he did not think so. He found that the frequency of ear disease increased with the age of the children; age did not necessarily imply long residence. Of those who had discharge from the ear many probably had perforation of the ear before coming into residence in the school, as very few suffered pain before the discharge commenced. He thought that it would be better to have the cases treated in the school under the supervision of a specialist than to board them out.

Dr. W. PERMEWAN (Liverpool) referred to a report made by him in 1896 on 200 children in one of the Liverpool board schools. The children were drawn from the lowest and poorest class. He found that his results agreed with those of Mr. Cheatle. He emphasised the scientific value of the report under discussion and expressed the hope that by a resolution of the society the work would be carried further.

Dr. H. MACNAUGHTON-JONES quoted from tables of cases formerly under his care to show that the causes of ear disease in children arose from diseases incidental to childhood. He inquired what was the latest age at which deafmutism could be acquired.

Dr. W. MILLIGAN considered the subject to be one of national interest. The amount of ear disease amongst the children of the poorer classes was appalling and he advocated some systematic and scientific examination of children by the State.

Dr. J. DUNDAS GRANT discussed some of the more unusual lesions met with in the investigation.

Mr. C. H. FAGGE pointed out that the report would not necessarily include the worst cases of deafness occurring in children of the poor as they would find their way to special schools.

Dr. HERBERT TILLEY inquired whether adenoids were not present in greater abundance in all clfildren up to the age of five years.

Dr. W. JOBSON HORNE considered that for the moment they were more concerned with the economic aspect of the whole question than with a consideration of academic details of the lesions so thoroughly investigated and ably classified in the report. The society was evidently contemplating what might be termed an extensive stocktaking of the otological status of the community. That would entail an enormous expenditure of time, careful thought, and patient work, and he trusted that whatever recommendations it might be thought fit to make at some future date to the authorities would be embodied in a scheme which would obviate the issuing of a circular by the Board of Education similar to that issued on Oct. 1st of last year to crown the labours undertaken in the interests of the eyesight of school children.

The PRESIDENT expressed the indebtedness and thanks of the society to Mr. Cheatle for the valuable report which he had presented. He referred to the frequency with which school children were punished by their teachers for errors and omissions due to no fault excepting deafness. He considered that a small committee of the society should be formed to investigate the matter further.

Mr. CHEATLE replied to the several questions that had been put and expressed his thanks to Dr. Littlejohn for the considerable help that he had given in carrying on the investigations.

Resolutions were put and were unanimously carried appointing a committee of the society, consisting of the President (Dr. Urban Pritchard), the two secretaries (Dr. Milligan and Dr. Jobson Horne), and Mr. Arthur Cheatle, Dr. Macnaughton-Jones, and Dr. Permewan, further to investigate the matter and to report.

ROYAL ACADEMY OF MEDICINE IN IRELAND.

SECTION OF PATHOLOGY.

Exhibition of Specimens.

A MEETING of this section was held on March 21st, Professor E. H. BENNETT being in the chair.

Dr. T. P. KIRKPATRICK exhibited a specimen of Genito-urinary Tuberculosis. The left epididymis as far as the external ring was hard and enlarged but not painful. Rectal examination detected a nodular enlargement in the left seminal vesicle. The lungs and other organs were healthy; no tubercle bacilli could be found in the sputum. Examination by the x rays gave a negative result. As the symptoms pointed to the kidney the abdomen was opened; the left kidney was found to be enlarged and cystic but the right kidney was normal. On the table the patient became collapsed, the operation could not be continued, and in three days death resulted. The necropsy showed the left kidney to be a semi-solid caseous mass, with little or no renal structure left, and the lumen of its ureter was completely obstructed throughout by a similar substance. The only renal symptoms during life were pain in the back and pain on passing urine which was albuminous. A careful examination of the organs other than those named showed no tuberculous deposit.

Dr. J. B. COLEMAN exhibited the following. 1. A Tumour of the Spinal Cord which he had diagnosed and located during life. It grew from the inner spinal membranes at the level of the eleventh and twelfth dorsal segments of the cord on its right dorso-lateral aspect. It was of about the size and shape of a sweet almond. A microscopical section showed it to be a myxo-sarcoma. 2. A Horseshoe-shaped Kidney, the bond of union being at the lower end of the organ.

Professor BENNETT exhibited a specimen of a Fracture of both Bones of the Forearm immediately above the Epiphyses. The case was a unique one; nothing even resembling it had been recorded. The patient was a girl, about 15 years of age, an inmate of a training school for servants in Dublin, where the accident happened through a fall downstairs on Dec. 8th, 1900, and Professor Bennett saw her on that day. The deformity somewhat resembled that of a Colles's fracture, or an epiphyseal separation of the lower end of the radius, and he applied splints. The following day he found the splints all right and she then told him that at the time of the accident she distinctly heard the bones break. After six weeks he took off the splints and found the bones united. The patient was a plump, well-nourished, good-coloured country girl, who had not complained of any illness and had no sign of physical weakness except an unduly large abdomen and a positive dislike to all food except dry bread; she refused to eat meat, butter, or even sweet cakes. Her only occupation was the folding of tablecloths into lengths for mangling. On Feb. 10th, 1901, he was asked to examine the wrist and to his surprise he found that the deformity had returned. He sent her to Sir Patrick Dun's Hospital and had the wrist skiagraphed. A transverse fracture of both bones just above the epiphyseal line was plainly marked; a cast (which was exhibited) was taken of the limb at the site of the deformity and it had some considerable resemblance to Colles's fracture. The fracture was easily reduced and the patient left the hospital on May 5th, 1901. She returned to the school where she continued to be engaged in light work. Up to this time no other trouble than the broken wrist had been complained of. She, however, still persisted in refusing meat and all other forms of food except dry bread. She was next seen on Jan. 1st, 1902, when Professor Bennett found her much changed for the worse; she was profoundly pallid, of a deeper pallor than that of chlorosis; the spleen was greatly enlarged, there was a certain amount of ascites, and the deformity of the wrist had greatly increased. On Feb. 8th she died. From the time when she left Sir Patrick Dun's Hospital in May, 1901, the deformity of the wrist-joint had gradually but steadily increased. The necropsy revealed no rickety condition; there was no trace of osteomalacia and there was nothing indicative of bone-softening. All the characteristics of pernicious anæmia were present, the fracture was well marked, and the posterior inferior extremity of the radius

ended in a convexity which was well marked and which extended to its inferior articular surface. In scurvy it was known that fractures did not unite and old ones came apart, but this patient's deformity returned when she was apparently in good health. That anæmia was not the cause of the separation of the fragments was beyond question, for it occurred when the patient was not suffering from anæmia and during her stay in a school where the feeding was good.—Dr. J. KNOTT thought that in the return of the deformity and the separation of the fragments the case had some resemblance to that recorded during the severe outbreak of scurvy in Lord Anson's command during his memorable voyage of circumnavigation 1740–1744. He could not find any cause for the non-union other than malnutrition.

BRITISH GYNÆCOLOGICAL SOCIETY.—A meeting of this society was held on April 10th, Dr. J. Halliday Croom, the President, being in the chair.—Dr. Macnaughton Jones read notes of a case of Miscarriage and Difficult Labour after Ventro-fixation. He described the firm and extensive adhesion of the uterus to the abdominal wall, as ascertained subsequently when removing an ovarian blood cyst from the same patient, and inferred that ventro-suspension or fixation of the doubled round ligaments (Olshausen's operation) was in women not past child-bearing a safer proceeding than ventro-fixation, the legitimate field for which was a limited one. He also, as bearing on the President's remarks at the last meeting of the society[1] gave the history of a case in which he had on the very next day removed a large multiple myoma without any accident and practically without any loss of blood. The patient passed flatus repeatedly and had no threatening symptoms till the evening of the third day when she complained of sickness. In 12 hours her temperature fell from 99·6° to 97° F., while her pulse ran up from 112 to 136. Persistent coffee-ground vomiting ensued on the following morning. He reopened the abdomen but could find nothing to account for her condition and in spite of all possible treatment she sank very rapidly and died.—The President said that he attributed such coffee-ground vomiting to sepsis. In his experience it had been invariably the precursor of death. He then read a paper on Deciduoma Malignum, as to the etiology of which he said that the latest view was essentially the same as that brought before the society by Dr. Haultain in 1899, the consensus of opinion now being that it was an epitheliomatous new growth the result of pregnancy and derived from the coverings of the chorionic villi, and not a sarcoma; this view was supported by the age of incidence of the disease, from 17 to 55 years, sarcoma being very rare before 35 years. In 60 per cent. of all the cases the disease followed that intense proliferation of the villous epithelium known as myxomatous degeneration of the placenta or hydatid mole; even when this was not the case characteristic symptoms generally appeared within a few weeks, or at most months, of labour or abortion, though one instance had been reported two and another four years after the last known pregnancy. Hæmorrhage, intermittent but so profuse and frequent as to cause profound anæmia, was generally the first symptom and in nearly all cases a characteristic feature, but exceptionally the primary area of active growth, owing to migration of the malignant villi, was deep in the uterine wall or even outside it, in the vagina, ovary, or elsewhere, and naturally hæmorrhage then might not occur. A fœtid discharge mixed with blood-clots and shreds of tissue was common and the early degeneration of the growth was followed by extreme cachexia from absorption of toxins of decomposition, and in default of timely operation the patient, if not carried off by metastases in some vital organ, rapidly succumbed to exhaustion. A case, exceptional in several respects, had been under his own care. A woman, aged 44 years, had had amenorrhœa for four months, leucorrhœa with foul watery discharge suggestive of ordinary malignant disease rather than deciduoma, and had been for some weeks conscious of a swelling in her hypogastrium which extended half-way up to the umbilicus; in her left labium there was a tumour of the size of a walnut, at first supposed to be a cyst of Bartholin's gland, but which proved to be solid and typical deciduoma malignum. The sound when passed into the enlarged uterus seemed to touch friable tissue, but the hæmorrhage, on its withdrawal, was of the slightest, and never since the onset of the amenorrhœa had she had any hæmorrhage whatever; she was nevertheless extremely anæmic and cachectic, sank very rapidly, and lung complications appearing died before it was possible to operate. Her last-known pregnancy had terminated in an ordinary miscarriage six years previously and it was hard to suppose that any products of conception could have remained latent in the uterus for six years and then have undergone malignant proliferation. The only alternative was that the amenorrhœa was due to conception, though she never had any hæmorrhage or other sign of abortion, and except characteristic elements of deciduoma malignum no evidence of pregnancy was found in the uterus.—Specimens of the disease from the uterus and metastases and sections under the microscope illustrated the case.—The discussion turned chiefly on diagnosis, Dr. Heywood Smith and Dr. H. Snow speaking and Dr. Macnaughton-Jones reading notes of an incomplete molar abortion simulating deciduoma malignum but apparently completely cured after two years, possibly to recur as malignant hereafter.—The President briefly replied.

[1] THE LANCET, March 22nd, 1902, p. 825.

SOCIETY OF MEDICAL OFFICERS OF HEALTH.—A meeting of this society was held on April 18th, Mr. A. Wynter Blyth, the President, being in the chair.—A discussion on Fixity of Tenure by Medical Officers of Health was opened by Mr. Herbert Jones who referred to a memorandum drawn up by the President and himself showing what had been done during the past 10 years by the society and through its journal and giving the favourable opinions expressed by several Cabinet Ministers and leading statesmen.—Dr. J. Groves alluded to the case of Dr. Cornelius B. Fox, the first medical officer of health of a combined district in Essex, whose representations as to the insanitary conditions of certain villages led to the dissolution of the combination and the loss of his appointment at the end of the three years for which it had been made. The Local Government Board was powerless in such a matter, for the appointment ceased to exist by lapse of time and no authority could be compelled to re-appoint an officer. With regard to the proposal to obtain an improvement in their position by means of special legislation he said that no deputation had been received by any Minister since 1893, when Sir W. Foster was Parliamentary Secretary to the Local Government Board, and Members of Parliament, with very few exceptions, took no interest in what they looked on as a claim for a form of medical monopoly, some, indeed, having declared their intention of blocking such a Bill whenever introduced. There was no chance of its passing unless taken up by the Government of the day and that would never come about until public feeling was aroused to see that security against unmerited dismissal of a medical officer of health was for the good of the community quite as much as for that of the officer. The whole-time officer was in some respects in a less difficult position than the honourable and conscientious half-timer; each had to choose between duty and self-interest, but the latter feared offending his patients no less than the members of his authority. Those only who were willing to do nothing enjoyed a virtual security.—Dr. J. R. Kaye gave a recent and glaring instance of the supersession of an officer who for 22 years had been on the most friendly terms with his boards and the appointment in his place of another who had not applied and who knew nothing of the matter until informed of his election but had declined to accept it. The Local Government Board would not contribute through the county council towards the salary of the medical officer of a combined district if any of the constituent districts paid less than £20, thus leaving the medical officer without even the temporary protection that the State aid conferred.—Mr. T. W. H. Garstang said that even when the relations between the authority and its officer were of the best there was a tendency to shorten rather than to extend the periods of the appointment, and the Local Government Board refused to allow a permanent appointment by any authority if the salary were under £50. Their intention was probably to encourage combination, but in practice he had found it to have the opposite effect. He suggested amending legislation, so that fixity of tenure should, in the case of existing officers, be personal only, except as regards the larger whole-time appointments, and that on the death or resignation of the present holder the county council should make or control the next appointment with a view to amalgamation with adjoining districts.—After further remarks by Mr. P. Targett Adams, Dr. J. W. Hembrough, Mr. H. Beale Collins, Dr. W. H. Symons, and others the

consideration of the Bill was referred to the Parliamentary Committee of the Council.

LIVERPOOL MEDICAL INSTITUTION.—A meeting of this society was held on April 10th, Mr. Rushton Parker, the President, being in the chair.—Dr. Arthur J. Wallace related two cases of the Cæsarean Operation which he had performed on consecutive days. The first patient was a primipara, aged 39 years, who had multiple fibro-myomata, one of which, seven inches in diameter, occupied the right broad ligament. The pelvis was flattened, its conjugate measuring two and a half inches. The patient's condition did not permit immediate supra-vaginal amputation of the uterus, but this was successfully carried out six months later when she was two months pregnant. The second patient, whose age was 27 years, suffered from syphilis and was also a primipara. The pelvis was flattened and generally contracted as the result of hip disease in childhood; its true conjugate measured two and a quarter inches. A layer of greenish tenacious material lay between the membranes and the uterus, presumably diseased decidua. The infant was feeble and developed pemphigus on the sixth day and survived three months. The patient was now again pregnant and had elected to have a second Cæsarean section performed.—The President, Dr. E. T. Davies, and Mr. G. S. Stansfield commented upon points in Dr. Wallace's communication.—Dr. C. J. Macalister read a paper entitled "A Criticism of the Sanatorium Treatment of Phthisis," in which he emphasised the necessity for inquiry into the after-histories of cases in order to obtain data concerning the permanence of the benefits undoubtedly derived by the majority of patients while under treatment. In his experience a large number of patients had relapsed after periods varying from some months to a few years. His impression from this fact and from the statistics of the German Imperial Health Bureau was that while the immediate results were good the ultimate results were disappointing.—Dr. Davies, Dr. W. B. Warrington, Dr. W. Carter, and Dr. J. Barr took part in the discussion.—Mr. Robert Jones read a paper on the treatment of Infantile Spastic Paralysis. He maintained that the affection was strictly surgical and that in suitable cases very marked improvement followed operative measures. In the hemiplegic variety the hand and arm were more seriously involved than was the lower limb. If the paralysis was complete and voluntary relaxation of the spasm was impossible treatment was futile. If the fingers of the affected hand could only be moved in conjunction with those of the opposite side the results were generally discouraging. Wherever any degree of voluntary relaxation was possible apart from associated movement on the opposite side treatment was strongly urged. Tenotomy, tendon transplantation, and hyper-extension of contracted muscles, combined with, and followed by, special exercises, were the indications. For the limbs in spastic paraplegia exsections of portions of the adductor longus and brevis, the horizontal fibres of the adductor magnus, the gracilis, and any other structures opposed to free abduction, should be practised. Exsections or division of portions of the hamstrings and each tendo Achillis were necessary. The limbs were then kept in extreme abduction for three months. Mr. Jones described at length the nature of the exercises to be subsequently prescribed and the methods in which walking should be attempted. A very large number of cases had been operated upon, varying in age from 12 months to 20 years; the benefit resulting was very great, and most children could be made to walk steadily without spasm and for long distances in from 12 months to two years. The classes outside remedial art were the idiot, the microcephalic, and the irritable diplegic with incontinence of urine.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.—A meeting of this society was held on April 2nd, Dr. E. C. Kingdon, the President, being in the chair.—Mr. R. C. Chicken showed the following. 1. Two cases of Recovery from Musculo-Spiral Paralysis. In one case the humerus was fractured and the nerve was involved in the resulting callus and in the other case the nerve was damaged by extensive bruising. In both cases the nerve had been carefully dissected out and freed. 2. Several skiagrams of Fracture of the Humerus involving the Elbow-joint, also one of a case of Atlo-axoid Dislocation in a young man. No paralysis had followed the dislocation and no inconvenience other than a stiff neck and pain on forced movements of rotating and nodding the head. 3. A Prostate removed by Freyer's method.—Mr. Chicken then read a paper on When is it Necessary to Open a Joint? He contended that the beneficent advantages of aseptic surgery had not been so fully extended to the various arthropathies as it had to other serous cavities. With thorough aseptic precautions arthrotomy might be fearlessly used for the relief of pain and tension in the more simple effusions, as an aid to diagnosis in all doubtful cases, and to restore nutrition where the trophic influences were impeded by pressure; in addition to those instances where it was urgently demanded for the relief of foreign irritants, such as hæmarthrosis, gonorrheal effusion, &c. He deprecated the use of aspirators and acupuncture needles, preferring a fine long-bladed knife. At present through prolonged tension suppuration was frequently allowed to supervene, tubercle to induce sepsis for want of drainage, and an undiagnosed condition to cause prolonged irritation where an early exploration might have allowed the removal of the primary lesion. Cases were quoted in support of these opinions.—The President, Mr. W. M. Willis, Mr. R. Wood, Mr. R. G. Hogarth, and Mr. J. Thompson discussed the paper, and Mr. Chicken replied.

BRITISH ELECTRO-THERAPEUTIC SOCIETY.—A meeting of this society was held on April 4th, Dr. W. S. Hedley, the President, being in the chair.—Dr. Hugh Walsham read an interesting paper on the Diagnosis of Thoracic Aneurysm, &c., by Means of the X Rays. The paper was illustrated by a large number of skiagraphs, shown through the lantern, of thoracic aneurysms, tuberculous bronchial glands, new growths, &c.—The President and Dr. A. E. Sansom discussed the paper.—Dr. Sequeira then read a paper on the Finsen Treatment of Lupus, Rodent Ulcer, &c., which was also illustrated by lantern slides, photographs, and many living cases.—After some remarks by Mr. George Stoker, owing to the lateness of the hour further discussion was adjourned to the next meeting, to be held on May 2nd. Visitors and members who had kindly promised to take part in the discussion are requested to communicate with the honorary secretary, Mr. Chisholm Williams, 20, Bedford-square, W.C.

FOLKESTONE MEDICAL SOCIETY.—A clinical meeting of this society was held on April 4th, Dr. T. Eastes, the President, being in the chair.—Several cases were shown by members, among these being a Gumma of the Soft Palate by Dr. W. J. Tyson, a case of Obscure Nervous Disease by Dr. P. G. Lewis, cases of Supposed Addison's Disease and Epithelioma of the Larynx by Dr. A. E. Larking, and Sarcoma of the Femur by Mr. H. Braund. Pathological specimens were also exhibited.

Reviews and Notices of Books.

Human Embryology and Morphology. By ARTHUR KEITH, M.D. Aberd., F.R.C.S. Eng., Lecturer on Anatomy at the London Hospital Medical College. Illustrated. London: Edward Arnold. 1902. 8vo, pp. 324. Price 12*s.* 6*d.* net.

No doubt can be entertained of the great value of a knowledge of embryology to the student of medicine. It supplies to the anatomist a satisfactory key to many anomalies and peculiarities in the distribution of nerves and blood-vessels and affords an explanation of many malformations, cysts, tumours, and the like, that the surgeon is called upon to recognise and to treat. The authors of the majority of the older works on physiology who have dealt with embryology at any length have found it convenient to take the fowl's egg to describe the earlier stages of development, partly because the material for observation could be easily obtained and the date of incubation precisely determined, and partly because the successive stages of the bird's ovum were much better known than the development of the ovum of the higher animals. But the continuous work of many skilled microscopists and morphologists has of late years rendered our knowledge of the development of the higher animals and man as exact as that of the bird and the subject has attained such

portentous dimensions that the authors of the best modern treatises such as those of Foster, Waller, and Starling appear to have felt that it had become unmanageable and either leave it out altogether or give an outline that extends over a few pages only affords to the student a quite inadequate idea of its value and importance. Moreover, embryology is eminently a subject that requires abundant illustration and illustrations are very expensive. There are parts like the uro-genital apparatus that present great difficulties to the learner who is guided and taught only by the text, whilst a diagram immensely facilitates his comprehension of the facts. Those who can recall Huxley and Kitchen Parker when discussing the homologies of the bones of the skull will remember how readily the pen or pencil was employed to give point and meaning to their views.

The plan adopted by Dr. Keith in this work differs from that which is followed in most works on embryology. It is customary to commence a treatise on embryology with an account of the sperm and germ cells, with the results of their fusion, and with a description of the medullary folds, the formation of the amnion and allantois, and the succession of changes that succeed the appearance of these structures. Dr. Keith plunges at once into the development of the face, describing the nasal, maxillary, and mandibular processes and pointing out in each case the cause of the malformations that are frequently observed at a later period, such, for example, as cleft palate, hare-lip, macrostoma, and micrognathia. This region, so carefully worked over by Rathke, Huxley, and Parker, is here exceedingly well given and the progress of development is illustrated by many original drawings which the dullest of students can understand. The following excerpt will show how the author leads the learner to understand teratological conditions in the adult by the stages through which the part has passed. Speaking of the premaxillæ he says: "In man each premaxilla is usually ossified by two centres placed side by side. Hence it sometimes happens in cleft palate that the fissure appears not between the canine and lateral incisors but between the lateral and middle incisors. In such cases the two centres of the premaxilla have failed to unite and the cleft occurs between them." The mode of formation of many of the foramina and canals in bone such as the vidian, pterygo-palatine, descending palatine, infra-orbital and dental canals, and of the foramen ovale, the foramen rotundum, and the malar canals are concisely given.

In successive chapters Dr. Keith describes the development of the pharynx and neck, the organs of hearing, and the teeth, and then devotes two sections to the development of the ovum of the fœtus from the ovum of the mother and to the manner in which a connexion is established between the fœtus and uterus, which includes an account of the primitive ova, the mature ovum, and the formation of the amnion, chorion, and placenta. The uro-genital system is next discussed, and a good chapter is devoted to a part often neglected—the pubo-femoral region, together with the pelvic floor, and fascia. The development of the mammary glands is very clearly and interestingly given. Then follow chapters on the Development of the Spinal Column and Back; the Segmentation of the Body; the Cranium; the Eye and its Appendages; the Nervous, Circulatory, Respiratory, and Digestive Systems; the Body Walls, Ribs, and Sternum; and the Limbs. The author has done wisely in restricting the size of the volume to a moderate compass. We venture to say that all the main facts of human embryology could be mastered by the student in the course of a month's steady application to Dr. Keith's treatise, and we recommend the work as a fairly complete and very trustworthy guide to human embryology. The illustrations are numerous and rather roughly drawn, but they have one excellent feature, that the names of the several parts are printed at the side and well-defined lines are drawn from them to the objects specified. The plan is distinctly superior to letters or figures with footnote references, as such letters are often blurred or rendered indistinct in the printing.

A System of Physiologic Therapeutics: a Practical Exposition of the Methods other than Drug-giving Useful in the Prevention of Disease and in the Treatment of the Sick. Edited by SOLOMON SOLIS COHEN, A.M., M.D., Professor of Medicine and Therapeutics in the Philadelphia Polyclinic; Lecturer on Clinical Medicine at Jefferson Medical College; Physician to the Philadelphia Hospital and to the Rush Hospital for Consumption; Consulting Physician to the Jewish Hospital, &c. Volume III.: Climatology; Health Resorts; Mineral Springs. By F. PARKES WEBER, M.A., M.D., F.R.C.P. Lond., Physician to the German Hospital, Dalston; Assistant Physician, North London Hospital for Consumption; Author of "The Mineral Waters and Health Resorts of Europe." With the Collaboration for America of GUY HINSDALE, A.M., M.D., Secretary of the American Climatological Association; President of the Pennsylvania Society for the Prevention of Tuberculosis; formerly Lecturer on Medical Climatology in the University of Pennsylvania. In two books. Book I.: Principles of Climato-therapy; Ocean Voyages; Mediterranean, European, and British Health Resorts. London: Rebman, Limited. 1901. Pp. 336. Price 21s. the volume. (Book I.).

THE volume, which has the rather full title-page duly set forth above, is the first book of the third volume of a series written for English and American readers. The greater part of the book before us is the work of Dr. F. Parkes Weber. It is divided into two parts. The first part deals with the physics, physiology, and general therapeutics of climate, and contains chapters on the Atmosphere, on the Effects of Altitude and Aerial Currents, and on Soil and General Topography. The last chapter deals with the Effects of different Classes of Climate. A good deal of useful information is summarised in this introductory part of the book; it does not contain, nor does it profess to contain, anything very new or striking. "By desire of the editor theoretic discussions have been confined to fundamentals." There are some useful charts showing respectively the general direction of the better known ocean currents and the mean annual temperature and rainful in various places. A description of the climate of the great American desert which is given on page 67 will probably be new to many English readers. Dr. G. Hinsdale explains that its soil differs entirely from that of the deserts of Egypt and Arabia. It is strongly alkaline and irritating to the mucous membranes. Salt and borax form important constitutents of the well water. It is the hottest and most arid part of North America. It may be worth while to mention that this desert is situated in Arizona, Utah, Nevada, and California and that Mont Diablo and Death Valley are situated in it. Dr. Hinsdale is probably right in saying that this region "can never be made available as a health resort." It is at any rate not one which would commend itself to Englishmen.

The second part of the volume gives a description of health resorts. Ocean climates and ocean voyages are first considered and outlines are given of many trips which may in suitable cases be advantageously undertaken, and at the end of the chapter there is a useful little paragraph as to the contra-indication to sea voyages. However obvious some of this advice may appear to be it is certain that in practice it is not always sufficiently attended to. It is fair neither to the patient nor to his fellow travellers to send on an ordinary passenger ship one liable to maniacal attacks, or to periodic insanity, or having a tendency to commit suicide. A description of the chief European health resorts is arranged in part according to their geographical grouping and in part according to their climate, but, as the author points out, he occasionally

makes digressions for convenience of discussion. Practically, in a book of this kind the exact method of classification adopted does not matter much. The work is essentially a book of reference. For this purpose a good and full index is the great desideratum. Without an index the book would have been practically useless, for it is from its very nature not one which would be read straight through for pleasure, nor would it, as a rule, be profitable to adopt such a course. In consulting such a work the medical man generally wishes for information on one of two points. He may either want to know what sort of place is X or he may want to know what places have the best reputation for the treatment of a certain disease. The index of this work is a good one and is so arranged that such information as that suggested may readily be found. A treatise like this must of necessity—as the author very justly observes—be to a great extent a compilation, but an exhaustive compilation of this sort involves a very considerable amount of work and may be well and honestly done, or the reverse. It seems to us that Dr. Weber's book deserves praise and that it will usefully serve the purpose for which it was written, although it would be easy to point out a number of emendations which might with advantage be made. The author is to be commended for acknowledging in so many cases the sources of his information. For Dr. Weber's credit it may be hoped that he is not responsible for the spelling; in this respect the book, like so many of those printed abroad, is very defective.

The Care and Feeding of Children. By EMMETT HOLT, M.D. Second edition, revised and enlarged. London: Henry Kimpton. 1901. Pp. 104. Price 2*s.* 6*d.*

THE methods of technical education, at least so far as this country is concerned, have made little impression on the efficiency of the domestic nurse. Nor have they dispelled that atmosphere of prejudice and ignorance which pervades the practices of the nursery. In fact, the training of domestic nurses is at the present day strictly comparable with that of the monthly nurse or "Gamp" of a generation ago. That is to say, traditions, prejudices, and ignorant practices are perpetuated in unfailing sequence from nurse to nurse and constitute a closed ring of resistance through which it is almost impossible to break. This impenetrable armour of indifference to reform which affects the management and rearing of children constitutes a difficulty which most practitioners fully realise. In America, where the servant question generally, and that of domestic nurses in particular, has already reached a very acute stage, it has been found absolutely necessary to institute practical training schools for nurserymaids where a proper course of instruction can take the place of, or at least precede, the usual nursery apprenticeship. This movement was inaugurated in the year 1889 in connexion with the Baby's Hospital at New York and has, we believe, proved itself an unqualified success, and, further, it has been an active instrument in the dissemination of the most approved scientific teaching with regard to nursery hygiene.

The manual before us has been drawn up by Dr. Emmett Holt for the benefit of nurses who are being trained at the above-mentioned institute in New York. It takes the form of a simple catechism in which the style of question and answer is adapted to the intelligence of girls of about 16 years of age and of the proper class. The contents of this catechism are divided into three parts, the first deals with the care of children, the second with their feeding, and the third with miscellaneous questions which continually present themselves for solution in the daily routine of the nursery. The information contained in this section refers particularly to matters of personal hygiene which ought to be, but are not, perfectly familiar to all those to whose care infants or young children are entrusted. It is the failure to observe these fundamental principles of nursery procedure which is responsible, not only for much of the sickness which is incidental to youth, but also for many of the constitutional diseases which in later years affect adult life. For instance, how many of our domestic nurses realise the importance of maintaining a low temperature in the nursery as the most valuable prophylactic against colds and catarrhs of the respiratory mucous membranes? The following are some of the questions and answers by which Dr. Holt endeavours to impress this truth upon his readers:—

1. At what temperature should a nursery be kept during the night?—During the first two or three months not below 65° F. After three months the temperature may go as low as 55° F. After the first year it may be 50° F. or even 45° F.

2. What symptoms are seen in a child who is kept in too hot a room?—It becomes pale, loses the appetite, shows symptoms of indigestion, occasionally vomits, stops gaining in weight, perspires very much, and takes cold easily, because of this, and also because of the great difference between the indoor and outdoor temperature.

As regards feeding Dr. Holt's well-known system of the home modification of milk by formulæ is taught by the same simple method of question and answer. For example, the pupil is asked, "What are the quantities of the different ingredients (milk, cream, milk-sugar, &c.) needed to make modified milk for an infant of such-and-such an age? Also, how much is required for each feeding and how much for the 24 hours?" The answer in each case is supplied in the form of an easily understood table. By the same simple method of direct question and answer the means of recognising the symptoms of the more common diseases of childhood are impressed upon the pupil in Part III.

Taken altogether this little handbook must be regarded as a very valuable guide to place in the hands of those who are, or of those who intend to be, nurses. It cannot be regretted, however, too deeply that we have in England no institutions in which to employ this little manual or which are in the least comparable with the admirable schools for nurserymaids which have been established by American enterprise in New York, Philadelphia, Buffalo, and Boston.

Hygiene for Students. By EDWARD F. WILLOUGHBY M.D. Lond., Diploma in State Medicine of the London University and in Public Health of Cambridge University. London: Macmillan and Co. 1901. Pp. 563. Price 4*s.* 6*d.*

THIS book, the author explains in his preface, is a fourth edition ("greatly enlarged and improved") of a work which he previously published under the title "Principles of Hygiene" and which was written to serve as a text-book for the examinations of the Science and Art Department. The present edition is divided into six parts which deal respectively with (1) the Health of the Man, (2) the Health of the House, (3) the Health of the City, (4) the Health of the People, (5) Demography, and (6) Meteorology. The sanitary conditions of rural districts are practically ignored, the laws bearing upon sanitation are not touched upon, and little mention is made of unhealthy trades. Demography, the author claims, is treated with greater fulness than in any work not solely devoted to the subject.

The book shows evidence of very careful and painstaking compilation and the author has freely used his judgment as to what he should take and what he should reject. For example, he condemns without exception all chemical methods for the treatment of sewage and he names without hesitation and without circumlocution the filter which should be used for drinking water and in what respects it is superior to all others. This dogmatic teaching is highly commendable when it is accurate and in the most important matters Dr.

Willoughby's views may be readily accepted. There are some statements, however, which will not receive universal approval. The connoisseur in bread will not believe that an oven heated by hot water is superior to the old brick oven, although Dr. Willoughby and a London baker whom he mentions by name agree in recommending the modern invention. The author devotes some space to a disquisition on wine and amongst other things he tells us that for the London market "Chateau Latour" is made by adding nuts or almonds and "Chateau Lafitte" by adding almonds and violets to ordinary Bordeaux wine. "This, however," he adds, "is a totally different thing from fraudulent fabrications." To us such practices appear to partake rather of the nature of fraud. From what has been said it will be gathered that the book is somewhat discursive. It contains statements of opinion on matters which have no special interest for students and which are beyond the purview of the ordinary examiner. On the other hand, the author omits to deal with subjects which form an important part of the study of hygiene. For these reasons we fear that the work, portions of which are excellent, will prove less useful than it might otherwise have been.

LIBRARY TABLE.

Vade Mecum d'Obstétrique et Gynécologie. By Dr. HENRI FISCHER. Paris: L. Boyer. 1902. Pp. 321. Price 4 francs 50 centimes.—This little book, which we see the author intends to have translated into English, consists of a series of short lectures upon obstetrics and gynæcology. It is written in the colloquial style of lectures and contains a good deal of information. The design which the author has had in writing the book is to place before the student simple rules to guide him in his choice of operative measures in the various conditions considered. The value of the different procedures is not discussed and no reasons are given for their choice. The book is necessarily incomplete and, dealing as it does with but a limited part of the subject of obstetrics and gynæcology, is not of much value. We are afraid that an English translation is not likely to meet with much success in this country.

Guide de l'Examen Gynécologique. By Dr. LEON ARCHAMBAULT. Paris: A. Maloine. Pp. 116. 1902. Price 3 francs.—This book is an elementary guide to gynæcological examination. In contains a limited number of facts relating to the subject described shortly and simply. It might prove of some use to junior students and *lycéens*. We see but little advantage in the publication of such books, containing as they do nothing that cannot be better learnt from the larger text-books on the subjects, and we do not think that their use by students is to be encouraged. This form of book is not one that we can recommend.

Essai de Sémeiologie Urinaire. (*An Essay on Urinary Symptomatology.*) By CAMILLE VIEILLARD, Pharmacien-Chimiste, Membre de la Société Chimique de Paris; with a preface by ALBERT ROBIN. Paris: Société d'Éditions Scientifiques. 1902. 8vo. pp. 376. Price 6 francs.—The first thing that strikes us in reading this book is the large amount of unnecessary verbiage in its pages. The style is somewhat pedantic and makes reading tedious. Such faults could, no doubt, be overlooked if the subject-matter were in itself excellent. But there is practically nothing new, except in the appendix, which is devoted to cryoscopy as a means of examination of the urine. The book is divided into three parts, the first dealing with the general principles of urinary semeiology, the second with each normal and abnormal constituent of the urine in turn and the meaning of its presence therein, and the third with what the author calls "urologic syndromes." The introductory remarks occupy 18 pages and are chiefly historical. The author claims to treat the whole subject from a novel point of view. In the first part of the book, on page 68, will be found a copy of a somewhat curious document—a form on which to record a complete analysis of urine. It will be seen that Professor Bouchard, whose system this is, lays stress on the anthropometrical examination of the patient as well as on the chemical analysis of his urine. The observer has to note down the patient's complexion, muscular condition, weight, size, circumference of waist, and the total superficies of his body. Dr. Bouchard says that the determination of the skin area is as useful as analysis of the urine when viewed in conjuction with it and that without the former the results of the examination are unsatisfactory. This seems to us to be urine-testing extraordinary and we can hardly regard Dr. Bouchard's method as a practicable one, always supposing that this account of it is correct. M. Vieillard does not seem to be sure about his views on this teaching, but on the whole he criticises it unfavourably. The second part of the book is more serviceable and might well stand by itself, for neither the first nor the third part is of much value. Then comes the Appendix on Cryoscopy which occupies 28 pages, devoted to what seems to be a mode of examining urines by physics rather than by chemistry. The author has previously published a brochure on this subject. Cryoscopy (*κρύος* ice, *σκοπεω* I see) is a method of estimating the quality of urines by observations of their freezing-point, which is found to vary with the amount of solids they contain dissolved; different substances are said to alter the freezing-point in proportion to their molecular weight. This, at any rate, is what we understand by the easy-going account of which the appendix consists. The author takes 6000 as the molecular weight of albumin and doubtless if this were known to be the case calculations would be much simplified. It is unproved, however, as far as we can ascertain. In the last paragraph in the book M. Vieillard states that these ideas are mostly new and that some modifications may be necessary. In this we quite agree with him, for we should be sorry to accept all that he says about cyroscopy without question or criticism.

Pharmacopœia of the Hospital for Diseases of the Throat, Nose, and Ear, Golden-square. Edited by H. LAMBERT LACK, M.D. Lond., and CHARLES A. PARKER, F.R.C.S. Edin., surgeons to the hospital. Sixth edition. London: J. & A. Churchill. 1901. Pp. 75. Price 2*s.* 6*d.*—The authors state that they have made numerous omissions of obsolete drugs, whilst they have added fresh prescriptions, the most important of which will be found in the nasal douches, local anæsthetic solutions, and mixtures and pills for internal use. The metric system of weights and measures has been introduced in addition to the old system, and the quantities under the metric system are said not to be the exact equivalents of those of the old system, but, save in fractional differences, the preparations made up by both systems will contain the same proportions of ingredients. The following acids have been added: chromic, nitric, and trichloracetic, which are grouped together under the title "Caustica," London paste, which had appeared in previous editions, being now discarded. It is stated in this edition, as in all previous ones, that if *porte caustiques* are used there is always the risk of a portion of the caustic becoming detached and falling into the throat. This would rather depend upon the part of the upper respiratory tract to which the caustic was applied. The medicated bougies for nasal use have been most wisely omitted. The alkaline nose-wash is reduced in strength and is made to correspond more nearly with Dobell's solution by the addition of sugar. The more important additions in the sub-section on douches are collunarium ammonii chloridi, antipyrine,

benzoini, boracis cum spiritu being substituted for boracis cum sale. Eucalypti compositum, menthol compositum, phenol compositum, phosphatis compositum, potassii chloratis, and sanitas are also new. Fuming inhalations are omitted entirely. Gargles have undergone some alterations of no great importance. Salicylic acid drops are the only noticeable addition to the guttæ. Hypodermic injections make their appearance in this edition. All the insufflations—aural, nasal, and laryngeal—have undergone reduction in their numbers. Local anæsthetic solutions appear under a different heading and include several useful preparations. The mixtures present no noteworthy changes, but the watery vapours or sprays have been entirely revised and five prescriptions are given for oil solutions to be used with the volatiliser. The rest of the book contains nothing worthy of notice. The authors are to be congratulated on having performed in a very able way a task which must be extremely irksome, for the edition exhibits a marked superiority over that issued seven years ago.

Atlas der Krankheiten der Nasen, der Nebenhöhlen und des Nasenrachenraumes. Von Privat-docent Dr. P. H. GERBER in Königsberg. Achte (Schluss) Lieferung. (*Atlas of Diseases of the Nose and its Accessory Cavities and of the Naso-Pharynx.* By Dr. P. H. GERBER of Königsberg. Eighth Part.) Berlin: S. Karger. 1902. Price 6*s.* each part.—Dr. Gerber's concluding number deals in its first Plate (No. XXXVII.) with a disease of wide interest but endemic in a more or less restricted area—that is to say, rhino-scleroma; the figures will be of great assistance in preventing errors in diagnosis in this rare disease. The remaining plates are devoted largely to special conditions, such as various forms of eczema, herpes, erysipelas, atheroma, elephantinsis, leprosy, and so on, as they affect the nose. One plate is devoted to affections of the external nose, another to congenital anomalies, while the final plate contains examples of diseases described previously. By this *Lieferung* Dr. Gerber fully maintains the standard of excellence shown in the earlier ones. As we have remarked in notices of the previous parts, we consider this to be an atlas of the highest excellence and of undoubted utility; in fact, as an aid to teaching the value of books of this description cannot be over-estimated.

The Book of Old-fashioned Flowers and Other Plants which Thrive in the Open-air of England. By HARRY ROBERTS, author of "The Chronicle of a Cornish Garden." London and New York: John Lane. 1901. Pp. 112. Price 2*s.* 6*d.* net.—This is the fourth volume of the series of handbooks on practical gardening which have been produced under the general editorship of Mr. Harry Roberts and of which the first three treated respectively of the culture of asparagus, of greenhouse flowers, and of the grape. The present volume is a useful and pretty little book which will be read with pleasure and profit by everyone interested in hardy flowers. The book is not, and does not profess to be, a systematic treatise, but it contains a good deal of information some items of which will be new to most readers and much of the advice given is excellent. The importance which should be attached to the preparation and use of "compost" is often ignored by amateur gardeners, but compost to the gardener is strictly comparable with the "stock" of the cook. Mr. Roberts's idea that, regarded as decoration, cut flowers are "inappropriate and childish" is not one which will generally commend itself and he is perhaps unnecessarily severe on those who admire the playful artistic spirit which led to the carving of yews and other trees into dragons, pagodas, and peacocks. These things, however, are merely matters of taste and there is only one point in the book to which we must take serious exception. "For weedy paths," the author says, "all that is now required is to water the paths when dry with a solution made by boiling five ounces of powdered arsenic in a gallon of water, stirring the while and then adding two gallons of cold water and half a pound of soda." We cannot commend this wholesale use of arsenic nor do we think that the poison should be intrusted to the gardener. A case recently came to our notice in which it seemed probable that a large number of big trout were killed by the adoption of the practice recommended by Mr. Roberts. In this instance there was a heavy rainfall soon after the application of the mixture, much of which must have been carried into the lake by the flood water.

Banking. By A. D. COCHRANE. London: Effingham Wilson. 1902. Pp. 99. Price 2*s.* 6*d.*—From the point of view of general education everybody ought to know something about the subject of banking and medical men may profit by a perusal of the pages of this book. Starting with an account of the origin of banking, the author points out that Greece, Rome, and Jerusalem were each responsible for the commencement or development of some one division of the system which is known as banking at the present day. In successive chapters he deals with early banking and political influences, the cause of failures, American banking, the position of London as the clearing-house of the world, the growth of joint-stock banks, gold reserve, savings-banks, and banking as it is at the present day. "Banking Customs" is not the least interesting chapter and explains many of the rules which are adopted by banks for their protection in the conduct of their business and which appear to their customers to be simply "red tape."

JOURNALS AND MAGAZINES.

American Journal of the Medical Sciences.—Amongst the original articles in the issue of this journal for April is one by Dr. Charles Phelps, surgeon to the Bellevue and St. Vincent's Hospitals, New York, on Localisation of the Mental Faculties in the Left Prefrontal Lobe. The writer reports numerous cases of injury to the head and also the conclusions at which he has arrived after the study of a large number of similar cases which have been reported. The large number of cases cited (800) is fully sufficient to form a basis for such conclusions. Three generalisations were made: 1. In every instance but two in which consciousness was retained or regained and the mental faculties were not perverted by general delirium laceration involving the left frontal lobe was attended by default of intellectual control and the lesion was usually, if not always, of the prefrontal region and implicated either its superior or inferior surface. Subcortical disintegration, or deep or extensive laceration of the cortex, was specially characterised by abrogation of mental power and superficial laceration by aberration in its manifestations. 2. In every instance in which laceration was confined to the right lobe the mental faculties were unaffected, except in so far as they were obscured by stupor or delirium occasioned by coincident general lesion. 3. Compression or contusion of the left lobe only exceptionally produced specific intellectual disturbance. The other communications in this number include: On the Effect of Severing and of Mechanically Irritating the Vagi, by Dr. G. W. Crile; An Experimental Investigation into the Causes and the Treatment of Diabetes Mellitus, by Dr. A. C. Crofton; and Primary Tuberculosis of the Liver, by Dr. Louis Frank.

The *Practitioner* in its April issue contains fewer original communications than usual. Dr. Theodore Dyke Acland presents a Clinical Study of Bronchiectasis which is long and well illustrated by cases and which gives a fairly comprehensive view of this most hopeless affection. Dr. Acland's conclusions with regard to some of the newer forms of treatment are depressingly despondent though we feel sure

that they are justified by results up to the present. Mr. E. Treacher Collins writes on Ophthalmia Neonatorum and has been at great pains to collect some valuable facts from both home and foreign sources. He rightly insists upon the preventability and great importance of preventing this disease which is the cause of blindness in such a large percentage of all cases.

Analytical Records
FROM
THE LANCET LABORATORY.

BILLON'S "OVO" LECITHIN PILLS AND GRANULES.

(BILLON'S OVO LECITHIN DEPÔT, 16, WATER-LANE, GREAT TOWER-STREET, E.C.)

IT has been said that phosphorus is to the nervous tissues what iron is to the blood corpuscles. The difficulty as regards administration, however, has been to present phosphorus in a suitable form. The animal substance lecithin which is a constituent of all nerve matter and is found also in eggs would appear to be a very favourable form of exhibiting phosphorus, judging from the excellent results which its administration is giving in disturbances of general nutrition due to nervous disorder and in anæmia and wasting disease. Billon's lecithin is extracted from the yelk of the egg by a special process. It is identical with distearine-glycerophosphate of choline and possesses a faint odour resembling that of fish oil. The granular preparation occurs in short thick threads of a dull yellow colour easily soluble in water, the solution readily frothing and possessing a sweet vanilla-like taste. On suitable treatment the reactions for glycerine, choline, and phosphorus may respectively be obtained. Billon's ovo lecithin may also be procured in the form of pills and a liquid preparation is available for hypodermic injection. There is abundant clinical evidence to show that these preparations have a marked tonic effect.

"CHURNO" (BUTTER SUBSTITUTE).

(VAN DEN BURGHS, LIMITED, 21, MINCING-LANE, LONDON, E.C.)

According to our analysis the following is the proximate composition of "Churno": moisture, 12·75 per cent.; fat, 83·55 per cent.; and curd and salt, 3·70 per cent. The examination of the fat proved the preparation to be a butter substitute as described. It contains a minimum amount of water and is of a palatable flavour which is decidedly like that of good butter. The sample which we examined was in sound condition, sweet and fresh to the taste, and free from rancidity. "Churno" is a wholesome food and serves as a good substitute for butter, while it is sold for half the price.

LEVURINE.

(CH. COUTURIEUX, PARIS. AGENTS: MESSRS. ROBERTS AND CO., 76, NEW BOND-STREET, LONDON, W.)

Levurine is a specially prepared barm obtained by culture, so that a particular "race" of yeast is selected. According to our experiments it is exceedingly active, for on adding a pinch to a solution of glucose brisk fermentation is speedily set up. Levurine possesses a faint yeasty smell which is accompanied by the smell of some aromatic used probably for preserving purposes. According to Dr. Doyen of Paris levurine appears to exert a remarkable restraining effect upon the activity of the pus organism. It is said to act as a real specific, its action being comparable with that of the antitoxin serum in diphtheria. In a case of anthrax it is stated that the furuncle and the anthrax subside and the inflammation diminishes just as the inflammatory œdema disappears in diphtheria. In a case of a painful boil on the leg after the administration of levurine, when the centre had already softened, the absorption, it is reported, took place only on the third day and the inflammatory swelling disappeared in some hours. "The core was eliminated three days after and the wound was in a fair way of cicatrisation." The evidence would appear to show that levurine is decidedly antagonistic to the staphylococcus pyogenes, and this barm certainly merits a trial in this country similar to that already accorded to it in France.

MEDICATED SOAPS.

(CHARLES MIDGLEY, LIMITED, 23, ST. ANN'S-SQUARE, MANCHESTER.)

We have carefully tested these soaps, having regard to the statement that they are superfatted. This is practically borne out since the phenolphthalein test, except in one case, gave no indication of the presence of free alkali. The exception was the traumatol soap, traumatol being an iodised cresylic compound. Traumatol soap contains 5 per cent. of traumatol, a very powerful yet not irritating antiseptic equal in germicidal power to corrosive sublimate. In the same way we examined nicotine soap, containing 10 per cent. of nicotine, intended for the treatment of scabies; formaldehyde soap, containing 5 per cent. of formaldehyde and sulphur; and camphor soap. The nicotine soap tends to excite sneezing, while the formaldehyde soap has a necessarily pungent odour. The soap basis throughout is evidently of a superior kind.

ANDERSON'S TAFELWEINE.

(GEORG ANDERSON, FRANKFORT-ON-MAIN.)

The feature of these wines is their practical freedom from sugary constituents, the amount of sugar seldom exceeding one-fifth per cent. The wines are of the hock type, light and delicate and suitable in particular for those who are prohibited the free use of sugar in any form. We examined three samples with the following results. No. 1: extractives, 1·55 per cent.; mineral matter, 0·21 per cent.; alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent.; volatile acid reckoned as acetic acid, 0·19 per cent.; fixed acid reckoned as tartaric acid, 0·32 per cent.; and sugar, 0·20 per cent. No. 2: extractives, 1·62 per cent.; mineral matter, 0·18 per cent.; alcohol, by weight 10·08 per cent., by volume 12·49 per cent., equal to proof spirit 21·89 per cent.; volatile acids reckoned as acetic acid, 0·16 per cent.; fixed acids reckoned as tartartic acid, 0·26 per cent.; and sugar, 0·25 per cent. No. 3: extractives, 1·76 per cent.; mineral matter, 0·16 per cent.; alcohol, by weight 9·36 per cent., by volume 11·61 per cent., equal to proof spirit 20·35 per cent.; volatile acids reckoned as acetic acid, 0·07 per cent.; fixed acids reckoned as tartaric acid, 0·36 per cent.; and sugar, 0·24 per cent. The wines present no striking differences in composition. They are decidedly dry and not expensive.

KALARI BISCUITS.

(CALLARD AND CO., 65, REGENT-STREET, LONDON, W.)

Though presenting the texture and crispness of an ordinary kind of biscuit the kalari biscuit is both starchless and sugarless. Further, it is free from excess of fat, which is frequently an objectionable feature in food prepared especially for the needs of those suffering from diabetes or obesity. In spite of the fact that the kalari biscuit is quite free from carbohydrates it is palatable, while on account of the high proportion of proteids it is undoubtedly nutritious. Kalari bread is made on the same basis.

MEDICAL MAGISTRATE.—Mr. John Sidney Turner, M.R.C.S. Eng., F.L.S., has been appointed by the Lord Chancellor a Justice of the Peace for the County of Kent.

New Inventions.

TRACHEOTOMY INSTRUMENTS.

IN certain cases of diphtheria after tracheotomy the trachea exudes a gummy secretion of great tenacity which not only necessitates very frequent cleansing of the inner tube but renders its removal difficult. There is then risk of the nurse pulling both tubes together from the shield, and I have known this happen both with Parker's tubes and my own. The very simple contrivance figured (Fig. 1) renders

FIG. 1.

FIG. 2.

such an accident impossible but it can only be used with tubes of my pattern. It is made of aluminium wire guarded at the ends with rubber and it is held in the palm of the right hand by means of the second finger crooked round the angle, leaving the thumb and the index-finger free. The instrument being gently pressed (Fig. 2) against the wings of the outer tube the handle of the inner is grasped between the index-finger above and the thumb below, and a good pull can now be exerted with perfect safety by the use of one hand only; further, the outer tube is held steady by the instrument and is not jogged about in the trachea.

The method of dressing tracheotomy wounds frequently adopted is messy and untidy; by the use of the bandage figured (Fig. 3) these drawbacks are removed. It is made of pink jaconet, lined, except near the wound, with flannel, and it can be washed. Buttoned round the neck it holds the deep dressing firmly applied to the wound, while protecting it from contamination by discharges from the tube or elsewhere (Fig. 4.) This dressing need, therefore, be disturbed but rarely—once or twice in 24 hours. The tapes attached, also coloured pink for distinction, are tied in a bow over the superficial dressing, while the white tapes of the tube lie on the bandage and sodo not fret the neck. Tube, dressing, and bandage are usually put on and taken off together, and in such case a mere hole in the last two suffices; if the tube is already in, however, then they must be slit. Coarse adjustment for different necks is attained by three sizes of bandage and fine adjustment by four buttonholes to each. The tubes shown are those which I described previously,[1] the only change which I have made being to bring the handle of the inner tube down lower. They are easier to clean during and after use than either Parker's or Durham's. The dilating director figured at that time has proved very serviceable—indeed, I have never even put out another for two years; it is simpler than any other pattern of dilator. The above are all made by Messrs. Arnold and Sons.

FIG. 3.

The bandage.

FIG. 4.

The bandage applied.

G. C. GARRATT, M.B. Cantab.,
Assistant Resident Medical Officer, London Fever Hospital.

[1] New Tracheotomy Instruments, THE LANCET, July 21st, 1900, p. 180.

NEW VACCINATION PAD.

THIS pad, introduced under the name of the "Limpet," is made of absorbent lint and cotton-wool, mounted on self-adhesive indiarubber plaster, the ample margin of the material which is provided ensuring the pad remaining firmly in position and this without any unpleasant constriction of the arm such as is caused by the use of tapes, &c. The pad remains firmly attached and is an efficient and comfortable protective covering. The pads are made in two sizes, children's to retail at 2*d.* and adults to retail at 3*d.*, by Solport Brothers, 188, Goswell-road, London, E.C.

Looking Back.

FROM

THE LANCET, *SATURDAY, APRIL* 17, 1825.

ST. THOMAS'S HOSPITAL.

April 15.

HENRY PRINCE, the little child from whom Mr. TRAVERS extracted a urinary calculus, on the 12th ultimo, has now perfectly recovered from the effects of the operation, and is entirely free from symptoms of stone. In giving the concluding notice of this child's case, we cannot refrain from pointing out to the benevolent governors of St. Thomas's the forlorn and hopeless prospect of this poor little infant. Through their benevolence and the skill of their medical officers, he is restored to health, but if their kindness be not extended beyond the limits usually prescribed to the patient of the hospital, we apprehend his rescue from death will prove rather a source of misery than happiness. We are informed that he is the offspring of parents who have had the inhumanity to forsake him, and who have consigned his welfare to the casual stranger. Should this child, now scarcely more than two years of age, be discharged from the hospital, we believe it is uncertain even to what parish he will be sent, much less to what friend; therefore unless the governors humanely interfere to shield this infant and continue their protection, we fear they will only have kept him from one grave to which he was fast approaching for the purpose of sending him by a more painful and harrassing route to another. Now as we know that many of the governors peruse the columns of THE LANCET, we hope they will take the distressing circumstances of this orphan's case into consideration, and protect him from that want to which we fear he will otherwise be inevitably doomed.

SOCIETY FOR RELIEF OF WIDOWS AND ORPHANS OF MEDICAL MEN.—A quarterly court of the directors of the society was held on April 9th, at 11, Chandos-street, W., the President, Mr. Christopher Heath, being in the chair. The report for 1901 was read. Seven new members were elected and the deaths of four members were reported. Applications for the renewal of grants were read from 52 widows, 11 orphans, and five recipients from the Copeland Fund, and a sum of £1282 was voted to be given at the next court. Two fresh applications from widows were read and grants were made. Donations amounting to £221 15*s.*, including £200 from the executors of Miss C. A. Birch, were announced. Nine members were nominated for election at the annual general meeting to fill the vacancies in the court of directors. The expenses of the quarter were £58 5*s.* The annual general meeting will be held on May 21st, at 5 P.M.

THE LANCET.

LONDON: SATURDAY, APRIL 19, 1902.

Cancer Research.

ALTHOUGH it is still disputed by some authorities we fear it is only too sadly true that within the last 30 years there has been a notable increase in the prevalence of cancer and other forms of malignant disease. The fact has been borne in upon the mind of the public as well as upon the medical profession and the result is a very general interest in, and a painful anxiety to fathom, the mystery that now enshrouds the whole subject of malignancy. The last 30 years has been a period also of great advance in medical knowledge and consequent improvement in our means of preventing or dealing with disease. It has witnessed the great results with which the name of LISTER will ever be associated; the secret of tuberculous disease has been laid bare by KOCH; and diphtheria has been robbed of much of its terror by the "serum treatment." But what has science done to unravel the tangled problem of cancer? What new powers have we of combating this scourge? The surgeons are ever widening their field of operation, they practise more extensive removal of parts, and often they are enabled by the public confidence in surgery to treat the disease at an earlier period of its history than before. The results are seen in a lessened mortality from their operations and a greater freedom from recurrence of the disease. But the most optimistic surgeon must confess that his art falls far behind his desire and of the other means at his disposal for combating malignant disease he can speak with only less confidence. This is known to the public just as fully as to the profession and it is therefore extremely natural that the public should be urging the profession to increase its efforts to discover the cause of, and the proper treatment for, cancer.

As is well known to our readers, it is proposed to raise £100,000 and to hand over this sum to a committee to be used for the sole and special purpose of investigating cancer. The Royal College of Physicians of London and the Royal College of Surgeons of England have drawn up a "scheme for the organised investigation of cancer" which is published in another part of our present issue. We need not assure our readers that we view every skilled investigation of cancer, from any standpoint whatever, with the very strongest sympathy and our columns have always been open for the recording of scientific results. There is no department of pathological research in which we and all our readers take a deeper interest than in the study of cancer; there is no branch of medical practice in which some great advance would be so welcome as in the treatment of cancer; and the impulse which gave birth to the scheme now before us has our deepest sympathy. But as we read the "scheme" which has now been promulgated by the two Royal Colleges we feel that it falls somewhat short of what we should have expected from such a source. To the rich man to whom the appeal for money is now made we would say, "It is vastly easier to give princely sums than to solve nature's problems." To the organisers of this investigation and the draughtsmen of the scheme we would say, "The work will be done by the scientific investigator, the patient toiler in laboratory or hospital ward, and not by any committee, consultative, advisory, or executive." The scheme before us appears to have been drawn up in forgetfulness of these truisms. There are to be two committees—the general committee and the executive committee. Of what service the general committee is to be to a very difficult scientific investigation it is impossible to imagine. We notice, too, that the executive committee, which is to have the real control of the fund and therefore of the work to be undertaken, is partly composed of *ex-officio* members and it is no secret that those *ex-officio* members may not be in any way specially qualified to assume this responsibility. It seems to us that those who drew up this scheme have devoted too much thought to the construction of the committees—the flies on the wheel—and too little thought to the scientific investigators. Yet any one who sits down and thinks the matter out must see at once that cancer remains a mystery, not for lack of a committee, or of any grand scheme of collective investigation, or of big volumes of statistical, dietetic, and topographical information, but from lack of scientific observation and knowledge gained by highly-trained workers. To solve the problem of cancer the real difficulty lies in getting the right workers, not in getting the right sum of money. How are they to be got? By wide scientific training in properly equipped laboratories. The question therefore naturally arises whether, if large sums of money are forthcoming for this work, they will not be more wisely spent in securing the highest possible training of suitable men in the most perfect methods of scientific research of all kinds than in continuing work along the narrow lines at present pursued. We have the fullest sympathy with the suggestions to subsidise individual workers; we should like to see all such men not only provided with due means for carrying out their investigations but also set free to devote their entire energies to the work in hand. Only too often in this country important scientific researches have to be made in the short hours than can be snatched after the pressing claims of a practice have been met and they are liable to grievous interruptions. It should be the ambition of the rich to bear their share in scientific progress by enabling such workers to devote their best energies to their highest call.

We notice that the first object of this fund is "to provide, extend, equip, and maintain laboratories to be devoted *exclusively* to cancer research" (the italics are ours). If we knew that that malignant disease was something quite distinct from every other morbid process in the human body there might be some justification for this "exclusiveness." But in default of this knowledge it seems to us unwise thus to limit the purview of those supported by this fund. None can tell from what direction the great discovery will come—from physics, chemistry, or biology in its widest sense. It is, indeed, very probable that he who looks only at cancer will fail to "see" it. While, therefore, we feel in every way desirous that further and clearer light may be thrown on the mystery of malignancy, and to that

end most heartily join in the appeal to the wealthy of the land to furnish the needed funds, we think that the scheme as formulated needs very careful reconsideration. The problem is a very difficult one to solve; no cut-and-dried committee scheme is likely to be successful. Any scheme of collective investigation is illusory. Rather do we need to stimulate new methods of inquiry and the consideration of the question from a wider scientific standpoint.

Thoracic Phthisis: The Lumleian Lectures.

THE "Lumleian Lecture in Surgery" was founded in the year 1581 and in the annals of the Royal College of Physicians of London it is referred to as the "Chirurgical Lecture." A very ambitious scheme of surgical lectures was at first adopted, an account of which may be found in HOLINSHED ("Chronicles," vol. iii., p. 1349), but it soon ceased to be either practicable or required and the present lectures were substituted. The subject chosen by the Lumleian Lecturer for his discourses has generally been interesting from a clinical point of view, and Dr. FREDERICK T. ROBERTS in taking as his theme the Comprehensive Study of Thoracic Phthisis has accurately followed precedent and has furnished a valuable monograph which contains a vast amount of information culled from clinical experience. At first sight his title is disappointing. Within recent years the term "phthisis" has been gradually dropped by many leading authorities, the term "tuberculosis" with a qualifying adjective, especially "pulmonary," being employed in its stead. It would appear on a cursory glance, therefore, that Dr. ROBERTS is making use of a word which we had hoped was becoming obsolete, more particularly when applied to "pulmonary tuberculosis." Dr. ROBERTS, however, early in his lectures makes it perfectly clear that such is not the case. He explains that he employs the expression "thoracic phthisis" advisedly to emphasise two most important practical facts. First, in the cases of chest disease usually grouped as "consumptive" the morbid changes are by no means limited to the lungs but in the large majority of instances other thoracic structures are more or less affected as well and the mischief may even originate in certain of these structures. Secondly, even assuming the disease to be essentially a manifestation of tuberculosis, other lesions and pathological changes may be associated with the tuberculous mischief from the first or from an early period, while they are certain to develop or to supervene in various combinations and degrees during the progress of cases which are at all prolonged and especially in those of a markedly chronic type. Ultimately the conditions not uncommonly become extremely complicated. In other words, "thoracic phthisis" and "pulmonary tuberculosis" are by no means synonymous terms—a fact which, we admit, is sometimes entirely ignored or forgotten. Unfortunately, there is very generally a tendency to forget the hackneyed, but nevertheless true, phrase, "Tota ars medici est in observationibus," and, having discovered "crepitations" at one "apex," to designate at once the case as one of "consumption" and forthwith to advise "open air," or some other form of treatment, without paying due attention to the need of searching for other lesions. Dr. ROBERTS's lectures are throughout a protest against any mere narrow perception of tuberculous disease of the thorax and its contents. We thoroughly endorse the lecturer's words when he says that, having adequately mastered the subject in the abstract and gained a fairly intelligent and definite knowledge of facts and not of mere theories, assumptions, or doctrines, and having acquired adequate skill in clinical investigation, the trained practitioner must regard it as his imperative and unfailing duty to deal with every individual case which comes under his care from a comprehensive standpoint—namely, to study it systematically and thoroughly, so as to be in a position to give rational and trustworthy advice, to do the best that is possible for this unfortunate class of patients, and to take suitable and adequate measures of a prophylactic or preventive nature as far as circumstances permit. The experience gained in the sanatoriums for the treatment of tuberculosis which already exist in this country bears witness to the want of care exercised in the selection of cases which are sent to such institutions. Doubtless the fault lies partly with the patients themselves, who are either unable, or perhaps unwilling, to perceive that their condition is such as cannot obtain benefit from treatment that would be suitable for cases in an earlier or less complicated stage of the disease. In some instances, however, the error lies on the part of the practitioner who may be inadequately acquainted with the principles of sanatorium treatment and the class of case most likely to benefit by it. The comprehensive view taken by Dr. ROBERTS of "thoracic phthisis" will, if carefully studied and followed, have a valuable effect in preventing such mistakes and a double benefit will follow. Disappointment, discomfort, and distress will be prevented in the case of a large number of patients and their friends, and results which tend to bring into disrepute a valuable therapeutic measure will be obviated.

There are many points raised by Dr. ROBERTS in these lectures to which reference might be made, but we must be content with noticing a few of those which concern not only individual patients but the general population. The mode of spread of the disease is most important to the medical profession. The idea that pulmonary tuberculosis is infectious has naturally created the greatest alarm amongst the community at large and extreme measures have been proposed to check the contagion. We join with Dr. ROBERTS in his protest against the modern tendency to regard all questions relating to tuberculosis too exclusively from the scientific side and to accept no doctrine or opinion as trustworthy or authoritative unless it emanates from a pathological or bacteriological laboratory. Scientific investigation does not cover the whole field and tuberculosis as it is seen in actual practice must be dealt with and studied on a much broader basis and from other standpoints. Pulmonary tuberculosis is, unfortunately, one of the most common of diseases. It may undoubtedly be communicated from one person to another, but the laity must be given to understand that it is not infectious in the same manner that scarlet fever is. There are some authorities who would have pulmonary tuberculosis added to the list of compulsorily notifiable diseases. We believe that the general enforcement of such a proceeding would have disastrous results on our social system and

that commercial, professional, social, and practical life would be materially interfered with. We agree with Dr. ROBERTS, therefore, that it is our business as a profession at once to endeavour to allay this excessive and unreasoning alarm and to make the laity understand that with very simple precautions there need be little or no fear of infection. If the public is taught the danger of indiscriminate expectoration, especially in public places and vehicles, no legislative measures will be immediately necessary. The risk of communicating the disease is, of course, greatest where many people are gathered together. In this connexion Dr. ROBERTS gives publicity to a statement that no arrangements are made in post-offices in this country as regards expectoration, while in addition their want of ventilation and other sanitary defects are but too evident. We believe that in this instance he has been wrongly informed and that the necessary hygienic precautions are enforced by the postal medical offices.

In conclusion, we wish to congratulate Dr. ROBERTS on the essentially practical manner in which he has brought before the profession a most valuable and instructive discourse.

Deafness and Ear Disease in School Children.

THE Otological Society of the United Kingdom has rendered a service to national education and to the community. It has drawn attention to facts which are startling, and which cannot be lightly passed over by those responsible for the training and future well-being of the children of the poor. The facts are embodied in a report by Mr. ARTHUR H. CHEATLE on the Examination of the Ears of 1000 School Children, which formed the subject for discussion at a meeting of the society on Monday last, and a report of which will be found at p. 1111 of our present issue. The children examined were those of the Hanwell District School which receives the children of the poorest class from Southwark and the City of London. The school includes an ophthalmic department into which children suffering from diseases of the eye, especially ophthalmia, are received from all the metropolitan Poor-law schools. The object with which the investigation was undertaken was to ascertain what proportion of children suffer from deafness and diseases of the ear in order that attention, if necessary, might be drawn to the subject. In conducting such an investigation Mr. CHEATLE was confronted with a difficulty at the outset—namely, the want of a trustworthy, and if possible a standard, test of hearing in children. The test employed was that of putting simple questions in a quiet whisper at an arbitrary distance—which in this case was 18 feet. At first the children had both ears unclosed and the eyes shut; afterwards one ear was unclosed and turned to the speaker and then the other. The test was found to form a good working standard. Other precautions, such as tuning-fork tests, were applied when necessary and in all the cases of middle-ear disease inflation was employed in order that the diagnosis might be strengthened by the improvement obtained. After the hearing power had been noted the ears, the nose, and the pharynx, and in a large number of cases the naso-pharynx, were examined. The results of these examinations were classified in the report, an additional table being introduced to permit of comparison of results of the examinations made in the main school with those obtained in the ophthalmic school. On the whole the results obtained in the two schools corresponded. The feature of the report with which the medical profession as a whole is more particularly concerned is that out of 1000 school children the ears were found to be normal in only 432; of the remainder the external ear was found to be affected in 49, the middle ear in 518, and the internal ear in one. The hearing power was more or less defective in 520. In many of these children the defect had been unnoticed by the teachers. To quote Mr. CHEATLE'S words, "there is no disregarding the fact that the report is a startling one." Moreover, it appears from the discussion which followed that the statistics of the Hanwell school agree in important respects with those derived from a similar investigation conducted in Liverpool. Before drawing any general conclusion from these statistics it is important to bear in mind that the figures upon which they are based are comparatively small and that the children who were dealt with were in both cases drawn from the poorest classes, living in insanitary surroundings and under conditions conducive to adenoid hypertrophy—which appears to have been present in 434 of the 1000 children examined at Hanwell. If we do not allow for these special considerations we may arrive at an unduly pessimistic conclusion; and, as was pointed out in the debate, it would be of interest for purposes of comparison to have statistics of an investigation conducted amongst children of the better classes who have always lived under fairer conditions. The whole matter is one that, now that it has been broached, should be thoroughly taken in hand by the medical profession. Mr. CHEATLE'S report states that in the majority of the large cities in Germany physicians are appointed to the schools to examine the eyes and ears of the scholars. In the canton of Zürich according to the official school report for the years 1899 and 1900, 106,297 children were medically examined and the ears were found to be in some way affected in 117 per 1000. In Stockholm in 1901 two aural surgeons were appointed by the town government to examine all the poor school children. The schoolmasters in the Swedish capital call on the parents of those affected to inform them of the necessity for treatment. From the economic aspect it would be difficult to mention a social grievance upon which the light of preventive medicine could be more profitably shed. The Otological Society of the United Kingdom has wisely appointed a committee from amongst its members further to investigate the matter—let us hope with a view of submitting some adequate scheme to the Board of Education. These investigators will, we think, find that their organised efforts will meet with the approval and support of their professional colleagues.

THE Religious Tract Society will publish on May 1st a Life of James Chalmers, the great New Guinea missionary. It has been prepared by the Rev. Richard Lovett, M.A., to whom the family of the late James Chalmers have entrusted the whole of the letters, memoranda, and reports in their possession, including an autobiography from the pen of James Chalmers himself. This has been incorporated into the Life.

Annotations.

"Ne quid nimis."

MEDICAL EDUCATION.

THE differences with regard to the control of the preliminary scientific education of the medical student which exist between the General Medical Council and the English Royal Colleges have been brought into recent public notice by an article in the *Times* of April 4th and by a letter from the President of the Royal College of Surgeons of England on April 11th. We published the debate on the subject in the General Medical Council on June 15th, 1901, and we expressed our opinion on the matter in our next number. The question, which has been for some years past, and is still, in dispute, is concerned with the recognition of schools for the teaching of the preliminary sciences—chemistry, physics, and biology. The authorities of the two Royal Colleges, knowing that there were many excellent science schools in Great Britain, as shown by the preliminary scientific and intermediate B.Sc. examinations of the University of London, which were quite open to anyone without any special bearing on medical studies, compiled a list of institutions from which they would receive certificates. Six months were allotted for chemistry, physics, and practical chemistry, and twelve for the same sciences with biology. An examination in these subjects was then passed under the control of the Conjoint Board of the two Royal Colleges, and this curriculum was only permitted in the case of those who had previously passed a recognised examination in Arts. In order to ascertain the science schools which were properly equipped with teachers and laboratories the Government grant list of the Science and Art Department was first taken into consideration, whilst others were personally inspected by the licensing authorities, as is now done in all cases. As the General Medical Council in July, 1890, extended the medical course to five years, providing that the first year might be passed at a university or teaching institution, the Colleges at once recognised the teaching at the science schools as a first year's course. The personal inspection of the schools has steadily been improved and many of them have been removed from the list, whilst others are frequently added to it. In November, 1896, the Royal College of Surgeons in Ireland made a formal complaint to the General Medical Council of this plan of procedure, alleging that it reduced the period of time in the case of the students affected to four years. It further stated that many of the schools were non-medical, "being either grammar schools or departments of local technical schools, the teaching of which may be open to question." It is most important to notice that these schools had been inspected by the Conjoint Board, whilst the General Medical Council had never visited them. The Council on the recommendation of the Executive Committee passed a resolution that no student should be registered until he had passed a preliminary examination as required by the General Medical Council and had produced evidence that he had commenced medical study at a university or medical school or at a scientific institution recognised by one of the licensing bodies and approved by the Council. The Conjoint Board replied to this official communication that it "failed to recognise any authority under the Medical Acts in virtue of which the General Medical Council may impose the conditions formulated in the regulation in regard to the registration of medical students" and that it "declined to recognise the requirement that scientific institutions where medical study is commenced should be approved by the Council." The Council adhered to its resolution, when the two Colleges resolved "no longer to require the registration of students by the Council as a condition of admission to examination for their diplomas, and that the regulation for the qualification of the two Colleges had been altered accordingly." The Conjoint Board is undoubtedly right in pointing out that the General Medical Council has gone beyond its province in demanding that before recognising institutions for teaching science the Colleges shall see that they are approved by that Council. The "authority of the Medical Council" does not legally exist. On its constitution only advisory and inspecting powers were given to it, with power to appeal to the Privy Council in case of any licensing body which it thought had abused its privileges, and in the case of the Apothecaries Hall of Ireland the Privy Council compelled the General Medical Council to appoint examiners in surgery as the Society had previously demanded. The last-named body is scarcely likely to appeal to the Privy Council against the Conjoint Board in November when there will be a further discussion in the General Medical Council on the matter. The Council has acted without the support of law, and the Royal Colleges have dealt a severe blow to the excellent system of registration of medical students which was formerly in vogue, even though it be in discharge of a function and a responsibility imposed upon them by charter.

PAYING WARDS OR PAYING HOSPITALS.

A RECENT correspondence in the *Times* has revived the question of payment by hospital patients. Among the writers on the subject are two experts on hospital management—namely, Sir Henry Burdett and the Hon. Sydney Holland. The former is of opinion that "the moment is therefore favourable for the consideration of the introduction of pay wards to large general hospitals, especially in London." Sir Henry Burdett's idea is that there should be an insurance office which would for an annual premium issue policies to defray the cost of hospital maintenance and treatment, including the fees of the medical attendant. The scheme outlined by Sir Henry Burdett is as follows:—

> To succeed, pay wards under the administration of the managers of a great voluntary hospital must be in a separate building, with an entrance quite distinct and apart from the free hospital and administration departments. The wards, on the continental plan, should be graded, so that patients may be classified, and the rates of payment fixed according to the means of each patient. All patients' payments to be pooled, and a percentage of them set apart for the remuneration of the medical men in attendance in the pay department, and each patient to have the right of being attended, if he so wish, by his own doctor. So organised, a pay ward should be popular with the patients and the profession, and a source of revenue to the hospital managers. If an insurance company is established on the lines I have suggested, then the managers and the medical practitioners would be guaranteed against loss, and everybody should be satisfied and benefited.

The Hon. Sydney Holland, on the other hand, thinks that the paying wards should not be under the same roof as the non-paying wards, but that if a hospital is to receive paying patients it should be a building entirely by itself. His scheme is as follows:—

> I feel sure that a hospital properly built for paying patients could be worked to give a fair return on its capital cost, and that such a hospital would meet a really great want. It should be managed as hospitals are now managed; there should be first, second, and third class accommodation, leaving patients to make their own arrangements with their own medical attendants. The charge should be inclusive of everything, and should include the payment of a resident medical officer acting under the several doctors and surgeons attending the patients.

We think that, on the whole, the Hon. Sydney Holland's idea is the better of the two. There can be no doubt that a hospital as opposed to a private nursing home is a sore need. The tax which a serious and long-continued illness lays upon a middle-class family is very great. It involves the expense of medical attendance, the expense of at least two nurses, and an upset of household arrangements. All this in a family whose income is perhaps only some £400 or £500 per annum spells something like ruination. Again,

the average London home—we can scarcely call it a house—is not constructed with any views towards convenience in sickness. The mere question of food is a difficulty, for a decent larder is generally unknown. Sickness in a flat is a still more severe ordeal, and in the case of any infectious complaint it is a danger to the community. For all these reasons, then, we should welcome the paying hospital. The expenses of the private nursing home are, in many cases, prohibitive, but such institutions are run as commercial speculations and the proprietors thereof have to make a profit. No such profit would have to be made by the paying hospital.

LETTERS ON THE BREAKFAST TABLE.

IT is the custom of many households to have the morning's post, including letters, newspapers, and circulars, placed upon the breakfast table. In fact, the parlourmaid usually takes upon herself the duty of sorting the post, placing the packets according to whom they are addressed in front of the seats occupied at the breakfast table by the respective members of the household. The classification is made all the more exact in many instances, perhaps, by putting the documents on the plate, which, after they have been removed, serves for the toast or the roll-and-butter. The plan is convenient, but from a sanitary point of view it is appalling. It is undeniably a dirty practice. In nine cases out of ten the envelope containing a letter is licked, as is also the stamp, by the sender. Infection, therefore, may easily lurk here, especially as by the time the letter reaches its destination the stamp and sealed cover are dry. Any materies morbi present would be easily detached. Then there are the risks of infection to which a letter is exposed in transit. The sorter at the post-office or the postman may not be as bacteriologically clean as is desirable. The dust of the road may adhere to any exposed gum or the letters may be dropped, and the bacteriology of road dust exhibits some well-known pathogenic organisms. Letters are frequently smeared with road mud. Amongst the microbes recognised in road-sweepings are the microbes of pus, malignant œdema, tetanus, tubercle, and septicæmia. The post probably is a very wide distributing agency of all sorts and conditions of organisms and this it would be difficult to prevent. But surely care might be taken to keep from association the plate upon which food is partaken and the letter or newspaper packet. It follows that from a hygienic point of view letters should never be opened or read during a meal. Good manners, moreover, would dictate the same thing and thus be in accordance with strict hygienic observance.

LACTESCENT ASCITES AND ATROPHIC CIRRHOSIS OF THE LIVER.

AT the meeting of the Société Médicale des Hôpitaux of Paris on March 21st M. A. Souques read an important paper on Lactescent Ascites and Atrophic Cirrhosis of the Liver. Following M. Jousset, he would substitute the term "opalescent ascites" for those of "chylous" and "chyliform ascites," because it has the advantage of describing the fluid without implying any pathological theory of its origin. M. Jousset applies the term "opalescent" to fluids of all shades of colour intermediate between milky white and colourless and the term "lactescent" to the highest degree of opalescence. Examples of opalescent ascites associated with atrophic cirrhosis of the liver are rare. M. Souques described the following case of cirrhosis of the liver with lactescent ascites. A man, aged 61 years, addicted to alcohol, was admitted to hospital on Dec. 26th, 1901. He had been in good health until the previous June when he began to lose appetite and strength. In August he noticed that his abdomen was enlarging. He was much wasted and had an earthy complexion. There was much ascites and the collateral venous circulation was developed. He often suffered from diarrhœa. The urine contained urobilin and a little reddish-brown pigment. A few days after admission œdema of the lower limbs and scrotum appeared. On Jan. 20th, 1902, paracentesis abdominis yielded 13 litres of lactescent fluid. On the 24th the ascites was again beginning and the urine was dark and scanty (250 grammes in 24 hours). On Feb. 12th paracentesis yielded 15 litres of milky-white fluid. The general condition became worse and death took place on the 16th. At the necropsy 10 litres of fluid similar to that which had been removed during life were found in the peritoneal cavity. The liver was atrophic and weighed 1270 grammes; scattered through it were hard yellow granulations. Microscopic examination revealed annular extra-lobular cirrhosis. Some of the hepatic cells showed fatty degeneration. The abdominal lymphatic vessels were not dilated and showed no perforation. A "pocket" was found behind the aorta and between the pillars of the diaphragm which communicated with the thoracic duct and appeared to be the receptaculum chyli. It was filled with blood-clots and must have formed an obstacle to the flow of chyle. The lactescence of the ascitic fluid was not modified by centrifugalising and when allowed to stand in a tube the fluid did not separate into layers but a slight reddish deposit of red blood corpuscles formed. Microscopically the fluid showed numerous small granules and refractile vesicles which did not stain and 12,000 mononuclear leucocytes, mostly lymphocytes, to the cubic millimetre. Ether did not render the fluid clear. Chemical analysis gave per litre in grammes 8·1 albumin, 0·25 fibrin, and 7·32 globulin. M. Jousset has been able to collect only 14 cases of atrophic cirrhosis of the liver with opalescent ascites. Obstruction of the thoracic duct was found in some of the cases but it is evidently only a predisposing cause. Ligature of the thoracic duct may be performed in animals without producing effusion of chyle or even dilatation of the chyle vessels. M. Souques suggests that the alcohol taken directly affects the chyle vessels at their origin and causes diapedesis of leucocytes into the peritoneal cavity already filled with ascitic fluid. There they are destroyed, giving rise to an emulsion which determines the phenomenon of opalescence.

THE STATISTICS OF 100 CASES OF ABORTION.

SINCE the days of Hippocrates, who was one of the first to express this view, some obstetric writers have been accustomed to regard an abortion as more dangerous to the mother than a full-term delivery. That the danger of such an accident if it be properly treated is not so great as is often supposed is shown by Dr. Blondel in a paper read before the Obstetrical Society of Paris and referred to by our Paris correspondent. In this paper he records the results of 100 cases of abortion, without a single fatal case, which had occurred in his private practice during a period of 12 years. The exact mortality of cases of spontaneous abortion is difficult to ascertain, but it is probably less than that of full-term confinements. Even the mortality following abortion criminally procured is really quite small, and it seems certain that Tardieu, who met with 60 deaths amongst 116 cases, had quite an exceptional experience. Brouardel, for instance, mentions 72 cases of criminal abortion without a death, and amongst Dr. Blondel's 100 cases 52 were certainly of such a character, and possibly 26 of the remaining cases were of the same kind. The proper treatment of a case in which there is reason to suspect that criminal measures have been used is always a difficult matter to decide in the absence of positive indications for interference, such as evidence of septic intoxication or septic infection or the retention of

portions of the ovum. Dr. Blondel recommends the following plan of treatment which he pursues in all cases where there is reason to suspect that criminal intervention has taken place. The uterus is curetted with the finger and with a curette. It is then swabbed out with glycerine of creasote of a strength of 1 in 3, is douched out with tincture of iodine, and a gauze drain dipped in glycerine of ichthyol (1 in 10) is introduced. The drain is changed every two days; at the same time the uterus is flushed out with a solution of corrosive sublimate. The results obtained are certainly very good, but it is a question whether they would not have been equally good with a less energetic plan of treatment. It is to be noted that in 60 of the cases the fœtus and placenta had already been expelled from the uterus when they were first seen. The most interesting part of the paper concerns the methods by which the criminal abortion was induced. Of the 100 cases of abortion which came under Dr. Blondel's notice 52 were purposely procured. In 22 of these a midwife was the culprit and in no less than 19 instances the patients carried out various manipulations upon themselves. On 15 occasions the midwife passed a sound and on 10 occasions a gum elastic catheter was used and an injection, presumably intra-uterine, was given. According to Brouardel this is one of the commonest means employed by French midwives. Some of them, with the view of still further swindling their clients are accustomed to inject so-called "eau d'argent" or "eau d'or" in the form of coloured water for which a correspondingly larger sum has to be paid. In two cases the patients had procured abortion upon themselves, in one instance by introducing a knitting needle and in another instance a bone knitting pin into the uterus. In nearly all cases where the patient has succeeded in passing instruments of this kind into her own uterus the organ has been found to be somewhat prolapsed. It is difficult to believe that any woman can succeed in such a manœuvre unless such a condition of the uterus is present. The fact that Dr. Blondel, even in cases where there was no doubt that instrumental interference had been carried out, could detect no wound or abrasion of the cervix, sufficient to swear to as evidence, is not at all exceptional. It is only, as a rule, when the patient dies that any trace of what has been done can be found and even then great care must be exercised in the interpretation of any supposed signs of injury.

CRUELTY TO FISH.

ON Feb. 17th a fishmonger of Berwick-street, Oxford-street, was charged at Marlborough-street Police-court by the Royal Society for the Prevention of Cruelty to Animals with having caused unnecessary suffering to 700 carp. On Dec. 23rd, 1901, he had upon a stand outside his shop a glass tank, 33 inches long and 15 inches wide, containing water about seven and a half inches in depth, in which were about 700 Prussian carp from four to six inches in length. They were put into the tank early in the morning and at 10 P.M. a large number were lying dead on the bottom. The fish were brought from Holland and were sold to foreigners for 2*d.* each at Christmas time. They were not kept in water during the voyage but were packed in trays with perforated bottoms; the uppermost tray contained ice, the water from which trickled down on to the fish beneath. Counsel for the prosecution said that the present case was the first of its kind, the proceedings being taken under the Cruelty to Wild Animals in Captivity Act, passed in 1900, which defined an animal as any "bird, beast, fish, or reptile" which was not included in the Cruelty to Animals Acts of 1849 and 1854. An offence of cruelty might consist in permitting unnecessary suffering or in cruelly abusing or terrifying an animal in captivity and might be punished with a fine not exceeding £5 or imprisonment not exceeding three months. Evidence was given to the effect that the deaths were caused by suffocation and that fish required a good supply of water in order that they might obtain sufficient air for respiration. The defendant was fined £2 with £3 3*s.* costs. At the same police-court on April 9th a naturalist of Great Portland-street, W., was charged by the same society with causing unnecessary suffering to goldfish. In his shop-window there were 13 bowls containing goldfish, some of them being dead and the water being dirty. This state of matters continued for four or five days during which the place was locked up. The defendant was fined £2 with £2 4*s.* costs. It may be mentioned that a few years ago a dealer in small tortoises was fined for having an undue number packed in casks so that many died.

CONGENITAL PORENCEPHALUS LIMITED TO THE AREA OF A PARTICULAR CEREBRAL ARTERY.

WHILE the condition of porencephaly, either congenital or acquired, is not particularly rare the opportunity for full and satisfactory pathological investigation is less frequent. In the first volume of "Studies" from the Royal Victoria Hospital, Montreal, issued in January last, Dr. D. A. Shirres has published a lengthy paper on a case of Congenital Porencephalus in which the distribution of the lesion corresponded to the territory of the middle cerebral artery. The case was of special importance owing to its long duration, its characteristic mental and physical symptoms, and the facility which it afforded for tracing the course of various nerve-tracts in the brain and medulla oblongata. The patient was a woman, aged 76 years, who died from pneumonia occurring during a state of dementia. No etiological factor in connexion with the patient's nervous system could be traced except the fact that severe fright and threatened abortion affected the mother during the seventh month of pregnancy. The child was, however, carried till, and born at, full term and seemed to be a normal infant, but when a week old she manifested stiffness of the right arm and fingers. Later she appeared to be a little backward in intelligence, not walking till the third year or talking till the fourth. Owing to paresis of the right hand the patient was taught to write with the left. She never suffered from epilepsy or fits of any kind. The right foot was inclined to drag a little in walking but it did not seem to hinder progress to any extent. There was some kyphosis of the spine and the right shoulder was lower and more forward than the left. She married twice but had no children by either marriage. When she attained the age of 60 years her mental faculties began to weaken rapidly. She became very religious, obstinate, and eccentric, living by preference a hermit's existence apart from her friends. At this period she developed delusions of persecution and was somewhat demented. She contracted pneumonia and died at the age of 76 years as already stated. A distinct family history of neurasthenia and arterio-sclerosis was obtained. Thus of seven other members of the family two brothers and one sister died from apoplexy and one brother had an apoplectic stroke but was still alive though nervous and mentally enfeebled. The necropsy revealed the following lesions. Upon opening the dura mater of the skull a remarkable and extensive condition of porencephaly was recognisable in the left cerebral hemisphere. The area of destruction was of a sausage-like shape extending around the Sylvian fissure into the temporo-occipital region and involving evidently the centres of speech, the face, and the upper extremity, the brain substance being replaced by a membrane distended with clear fluid. The left cerebral hemisphere weighed 302 grammes, while the right weighed 560 grammes, but the right half of the cerebellum was markedly smaller than the left. The right hemisphere was normally and richly convoluted, whereas in the left hemisphere the convolutions

were "very poorly developed though not simplified." Dr. Shirres regarded the condition as due to an occlusion (thrombosis) of the middle cerebral artery outside the origin of the perforating arteries for the basal ganglia. "The lesion had apparently occurred in the later months of fœtal existence and was due to rupture of fœtal vessels in the placenta." The corpus callosum appeared to be normal in size and the corpora striata were equal. There were general atrophy of the left optic thalamus both as regards the cell-bodies and nerve-fibres of its various portions, and marked atrophy of the posterior limb of the internal capsule, corpora quadrigemina, and optic tract on the left side. Bundles of degenerated pyramidal fibres could be traced through the left cerebral peduncle and the fronto-cerebellar and occipito-temporo-cerebellar bundles were degenerated in the same situation and in the pons. Other degenerations were found in the fillet and in several of the nuclei throughout the left half of the pons. The nuclei of cranial nerves in the floor of the fourth ventricle were normal.

THE MEDICO-LEGAL SOCIETY.

As we announced in THE LANCET of April 5th would be the case, a general meeting of the newly formed Medico-Legal Society was held on April 10th at 20, Hanover-square, London, W. The usual rules for the conduct of a society were adopted and the following officers were elected: President: Dr. W. J. Collins, L.C.C., barrister-at-law. Vice-Presidents: Dr. M. Hay, Professor of Medical Jurisprudence in the University of Aberdeen; Dr. A. Bostock Hill, Professor of Medical Jurisprudence in the University of Birmingham; Mr. A. J. Pepper; Dr. G. Danford Thomas, Coroner for London and Middlesex. Council: Mr. S. B. Atkinson, M.A., B.Sc., barrister-at-law; Dr. C. O. Hawthorne; Dr. T. N. Kelynack; Dr. H. Harvey Littlejohn, Lecturer on Medical Jurisprudence in the University of Edinburgh; Dr. J. S. Risien Russell, Professor of Medical Jurisprudence in University College, London; Dr. F. J. Smith, Lecturer on Medical Jurisprudence at the London Hospital; Dr. W. R. Smith, Professor of Medical Jurisprudence at King's College, London; Dr. F. J. Wethered, Lecturer on Medical Jurisprudence at the Middlesex Hospital; and Dr. H. W. Williams. Honorary treasurer: Dr. W. Wynn Westcott, coroner for North-east London. Honorary secretaries: Dr. W. McCallin, barrister-at-law; and Mr. R. Henslowe Wellington. The object of the society is to advance the knowledge of medico-legal matters.

THE HEALTH OF THE CITY OF LONDON.

THE monthly report of the medical officer of health of the City of London for the four weeks ending March 15th affords some interesting reading. In the four weeks there were registered 97 deaths but 52 of these occurred in St. Bartholomew's Hospital. There were 34 cases of infectious disease notified, of which 10 were cases of chicken-pox. Six cases of small-pox were notified but two of these were subsequently proved not to be small-pox. To come to the smoke nuisance, 552 observations were made and intimation notices were served upon the owners or occupiers of the Bucklersbury Restaurant and the *Daily Telegraph* printing works. A list of places is given where notices have been served and where in the majority of cases improvement has been effected. Some cases, however, are marked with an asterisk, owing to the nuisance still existing. These are nearly all taverns or restaurants. Certainly, in our experience the chief offenders against the smoke enactments, apart from factories and electric-light works, are restaurants and bakeries. With regard to adulteration milk is still the article most extensively adulterated, or perhaps we should say sold fraudulently. Nothing is added except water but in many cases fat is abstracted. There were 12 prosecutions under the Food and Drugs Acts, mainly concerned with milk, while under the Public Health Act of 1901 six persons were prosecuted, chiefly for dealing in diseased meat. One scoundrel, a farmer, was fined £80 for depositing four quarters of diseased beef for sale. His name is Samuel Egar and he lives at Thorney, Peterborough.

THE ANTI-VACCINATIONIST IN HIS TRUE COLOURS.

IN THE LANCET of April 12th, p. 1074, under the above heading, we commented upon the statements of a person named W. D. Stokes. Mr. Stokes told many untruths, but then he is ignorant and probably believed that what he said was true. The following paragraph appeared on the second column of the third page of the *Morning Leader* of Tuesday, April 15th. It is an editorial paragraph and the editor of the *Morning Leader* is an educated man. Yet he can publish such stuff as this:—

AFTER VACCINATION.

ANOTHER LITTLE GIRL DIES A PAINFUL DEATH.

Particulars are to hand of another particularly distressing fatality arising presumably through vaccination, and the circumstances of which bear a very close resemblance to the case of the little girl Harriet Stow, which was inquired into by Dr. Wynn Westcott, at Hackney, as reported in the *Morning Leader* of Jan. 30th. The deceased was Nellie Cooksey, aged seven years, the youngest child of a brass-finisher, residing at 86, Waddon New-road, Croydon, and in consequence of the notices issued by the school authorities she was subjected to vaccination, the operation being performed by Dr. Adams, jun., at the surgery of his father, who is public vaccinator for Croydon. A week afterwards the child was examined by Dr. Adams, sen. On the eleventh day, however, the child became very ill, and during the succeeding night she was seized with a fit. The following day Dr. Neligan was called in, and he pronounced the patient to be in a serious condition. She lost the use of her limbs, the mouth became fixed, and the brain appeared to be paralysed. She expired exactly 14 days after the operation had been carried out. Prior to this the deceased was quite well and strong, and she had not had any illness for four years. The symptoms—as described—were quite consistent with lockjaw and in trying to force the mouth of the little sufferer open a tooth was broken, yet the causes as notified on the certificate were "Pneumonia and heart failure."

True it is that "a lie which is half the truth is ever the basest of lies." It is true that the child died after vaccination. Numbers of people have died after vaccination, so no doubt have numbers of people died after reading the *Morning Leader*. Why does the *Morning Leader* say that the fatality arose "presumably through vaccination"? and what does it mean by saying the "symptoms—as described—were quite consistent with lockjaw"? In lockjaw or tetanus the brain is not paralysed, but severe nervous symptoms are quite common with pneumonia, especially in children. Surely Dr. T. R. Adams and Dr. J. W. Neligan are more likely to know what was the matter with the child than is the editor of the *Morning Leader*. We can respect the honest, though mistaken, anti-vaccinationist, but it is prostituting the press to make it the medium of circulating deceitful paragraphs such as the one which we have quoted.

DEMENTIA PRÆCOX.

CONSIDERABLE attention has been given during the last few years to a group of mental disorders belonging to the adolescent period of life and designated "dementia præcox," a description of which was given in these columns two years ago.[1] In a recent *Thèse de Paris* (1902) Dr. Rene Masselon deals with the subject in its latest developments and carries the classification of the various mental disorders of this group a step further. Four forms of dementia præcox are recognised—viz., a simple, a hebephrenic, a katatonic, and a paranoid form. Simple dementia præcox is marked by a slow and progressive mental enfeeblement beginning during adolescence and pursuing its even course without the development of delusions. The hebephrenic or delusional form is characterised by a medley of states of mental excitement,

[1] THE LANCET, Feb. 10th, 1900, p. 397.

depression, hallucinations, and mental confusion. The delusions are never systematised. The vesanic manifestations are mobile and the temper and humour of the patient are variable. The katatonic form is marked by phases of stupor and negativism—i.e., of passive resistance to enforced movements and acts, cataleptoid and stereotyped attitudes, postures, and marked responsiveness to suggestion The clinical group of symptoms of the latter class was long ago described by Kahlbaum under the general name of katatonia. The paranoid form is marked by rapid intellectual enfeeblement with sensorial disturbances and delusive conceptions evolved in an atmosphere of apparent mental lucidity. Among the somatic disturbances attending dementia præcox there may be exaggeration of the knee-jerks, pupillary anomalies (mydriasis with sluggish reflexes), vaso-motor feebleness and instability, secretory disturbances, and occasionally fits of convulsive character, marked by much histrionic and hysterical movement. Dr. Masselon gives the detailed clinical histories and minutiæ of 13 patients personally observed, of whom five were males and eight were females. The ages at the onset of the mental disease were as follows. In three single women the ages were 17, 17, and 21 years, in five married women the ages were 26, 26, 27, 29, and 35 years, and in five males the ages were 16, 17, 18, 22, and 23 years. The faculty of voluntary attention was lost in all cases and the will was enfeebled, or, in the severer cases, entirely abolished. Apathy and an almost entire absence of curiosity were observed, while bizarre attitudes, echolalia, and motor *tics* were common. As regards curability it was found from the study of a large number of cases and observations collected from the literature of the subject that 8 per cent. of the hebephrenic and 13 per cent. of the katatonic patients recovered. It is possible that a fifth form of dementia præcox may yet have to be added to the above four enunciated by Dr. Masselon—viz., a form of dementia præcox in which loss of inhibition or self-control and a predominance of dangerous and destructive impulses and instincts are among the most notable features which appear, soon to be followed, however, by mental enfeeblement and unmistakeable signs of insanity. Cases of this sort developing during adolescence are not unknown to psychiatric literature though but little studied hitherto. They are not to be confounded with the so-called cases of moral imbecility in which the malady has an earlier origin and pursues a different course.

THE "CURE" OF INTEMPERANCE.

IT must be reckoned as a fact of hopeful augury when a disease or a disorder is chosen as the battle-ground of rival "cures." The habit of intemperance, though not in the strict sense a disease, resembles one in this particular. It has given rise to a variety of systems of reform. Nostrums innumerable have been levelled at it. Like all others of their class they promise perfection and even profess to have realised it but they do not furnish the proofs of even moderate success. As might be expected the secret which they profess to have discovered is guarded with all the jealousy of a trade patent. Nothing is given away to humanity. The miracle will be performed but the entertainment must be paid for. This is, in brief, the usual history of these so-called cures. They are merely appeals to faith—and to credulity. To this fact they owe any slight value which they may possess, for there is no drug known or discoverable which can obliterate a moral propensity. It does not follow, however, that the drinking habit or even the condition of alcoholism is intractable. The mere existence of so many "infallible" remedies is one evidence that mankind as a whole does not despair of the drunkard's reformation. Wherever his enslaved will can be aroused to an effort for freedom and can be sustained in the effort there is a reasonable hope that it will succeed in its endeavour. This fact, not the use of any drug—except, of course, where this may be required to combat a physical malady—indicates the true line of treatment. Any system in order to be successful must include the removal of the source of temptation or of the individual from it, the stimulation of his interest in some wholesome pursuit, his regular occupation in it, and a plain and sufficient diet strictly moderate in respect of meat and free from substances known to excite thirst. It is on these principles that the recently established inebriate homes are conducted. If only they were generally remembered and acted on in private life by the relatives and friends of the intemperate a genuine cure would be more common than it is.

THE DISTRIBUTION OF PLAGUE.

DURING the week ending April 6th 13 cases and 9 deaths from plague have been reported throughout Egypt. 2 cases and 2 deaths, 1 of which took place out of hospital, were reported from Kom el Noor; 7 cases and 5 deaths, 1 out of hospital, from Deshneh; 3 cases and 2 deaths, 1 out of hospital, from Exbehs near Benha; and 1 case from Sheblanga. As regards the Mauritius a telegram from the Governor received at the Colonial Office on April 11th states that for the week ending April 10th there were three cases of plague and three deaths.

GYNÆCOLOGISTS AND THE CORONATION.

A REFERENCE to our advertisement columns will show that it is proposed to hold during the Coronation week a reunion of the gynæcologists and obstetricians of the Empire. The date of the reunion is June 24th, and there will be a reception at 20, Hanover-square, London, W., and a dinner in the evening at the Whitehall Rooms, Hotel Metropole. Sir John Williams, Bart., is the President, and the invitations are issued by him, by the President of the Obstetrical Society of London (Dr. Peter Horrocks), and by the President of the British Gynæcological Society (Dr. J. Halliday Croom). Applications for tickets and information should be made to Dr. T. W. Eden, 26, Queen Anne-street, Cavendish-square, London, W.

PENTOSURIA.

IN the *Deutsche Medicinische Wochenschrift* of April 10th Dr. Manfred Bial of Kissingen describes a chemical reaction for pentosuria which is more rapid and convenient than those at present in use. The disease, he says, is not very common but is nevertheless of clinical interest because in it the urine gives the ordinary reactions of diabetes although no glucose is present. The commonly employed reaction for pentosuria is that devised by Salkowski and Blumenthal and consists in boiling the urine for about half a minute with fuming hydrochloric acid and orcin; a green substance is thereby formed which can be separated by shaking with amyl alcohol and shows a characteristic absorption band under the spectroscope. This method succeeds well in the laboratory but in the consulting-room it is inconvenient on account of the acrid vapours of the acid and the tendency to percussive ebullition. Dr. Bial's reagent for pentosuria is a solution of a gramme or one and a half grammes of orcin in 500 grammes of fuming hydrochloric acid to which 25 or 30 drops of a 10 per cent. solution of perchloride of iron are added with careful trial on a test sample. Four or five cubic centimetres of this reagent and two or three cubic centimetres of the suspected urine are poured into a test tube which is plugged with cotton wool and held over a flame until the first bubbles of steam rise. If the cases is one of pentosuria a green substance either forms abundantly in thick flocks or, in the event of the proportion of pentose being small, the liquid

becomes of a fine green colour in 15 or 20 seconds as it cools. If the process be conducted in a somewhat different way—namely, with two or three cubic centimetres of urine, as much orcin as will lie on the point of a knife, four or five cubic centimetres of fuming hydrochloric acid, and one or two drops of a 10 per cent. solution of perchloride of iron, boiled together for two or three minutes, the compounds of glycuronic acid, even in normal urine, are acted on and a green colour is produced, but it is quite easy to avoid confusing the two reactions. The distinction between pentosuria and diabetes is of importance to the patient because of the dietetic restrictions and the difficulties in life assurance which diabetes involves.

THE USE OF BORAX AND BORIC ACID AS FOOD PRESERVATIVES.

Professor Victor C. Vaughan and Mr. W. H. Veenboer of Michigan University have published in *American Medicine* of March 15th last the results of an elaborate research on the use of borax and boric acid as food preservatives with especial reference to their use in meat, bacon, cream, milk, and butter. In a previous communication on Cases of Boric Acid Poisoning by Dr. J. F. Rinehart, an account of which has already appeared in these columns,[1] it was shown that mental dulness and apathy might in some cases follow upon the ingestion of borax or boric acid if the proportion of the drug was at all considerable, when taken internally by the mouth or when applied to some absorbent surface within the body. In 1900 Professor Oscar Liebreich of Berlin showed that boric acid was harmless when given in small quantity—three grains daily—to a dog and that the same applied to borax. He also showed that borax and boric acid could be used for preserving fresh foods but could not be used to restore decomposed foods to a fresh state because they were not disinfectants but only feeble antiseptics. The committee appointed by the Local Government Board in 1899 to investigate the use of preservatives and colouring matters in food stated in 1901 that meat and bacon exported from America into England and butter sent from Australia, America, and France contained boric acid. Among the recommendations of the committee were the following: that the only preservative which it shall be lawful to use in cream shall be boric acid or borax to the extent of ½ per cent. and that in butter or margarine the quantity shall not exceed ½ per cent. Professor Vaughan and Mr. Veenboer estimated the relative degrees of bacterial growth in finely chopped meat and bacon, cream, and butter treated with varying quantities of boric acid up to 1 per cent. and exposed to the air for a variable number of days. Finely chopped meat was mingled with boric acid solution and exposed for three days out of doors at a temperature slightly below freezing-point and then was placed indoors at a temperature varying from 15° to 25° C. Loop-cultures were made at intervals from the mixture on gelatin and agar-agar plates and the number and rate of bacterial growths were estimated. The results showed that while quite small quantities of boric acid served to preserve the meat the growth of bacteria was not entirely prevented. Similar but more marked results in the number and rate of bacterial growths were obtained with cream. In butter and margarine the growths were slower and less in number. "We observed in our experiments that meat without boric acid when kept at ordinary temperatures became 'slimy' within a few days. From the surface of such meats we made gelatin and agar plate-cultures and from these we obtained 20 different kinds of micro-organisms. Of these 14 were [species of] peptonising bacteria, and all of these 14 were aerobes." The sprinkling of boric acid on hams, bacon, and meat prevented the growth of these bacteria and kept the flesh from getting slimy. The following conclusions were drawn: 1. The use of borax or boric acid as a preservative in butter and cream in the quantities stated in the report of the English committee was justified by practical results and by scientific experiment. 2. The dusting of the surfaces of hams and bacon with borax or boric acid not exceeding 1½ per cent. of the weight of the meat was effective from a sanitary standpoint. 3. Meat thus treated was prevented from becoming slimy.

[1] THE LANCET, Nov. 30th, 1901, p. 1514.

THE PREVALENCE OF SMALL-POX.

THE returns of small-pox in London for the past week show the following figures. On Saturday, April 12th, 29 fresh cases were notified and removed; on Sunday, the 13th, there were 19 fresh cases; on Monday, the 14th, there were 37 fresh cases; on Tuesday, the 15th, there were 44 fresh cases; and on Wednesday, the 16th, there were 59 fresh cases. In the county of Essex for the week ending April 12th there were notified 76 cases, but this number includes all occurring in the Chingford district since Jan. 1st, for, says the report from which we quote the figures, "in consequence of a change of medical officers of health the returns of cases of small-pox from that urban district have not hitherto been received." In all, from Jan. 1st 782 cases have been reported throughout the county.

THE BETTERMENT OF LONDON ASSOCIATION AND STREET NOISES.

WITH the return of the flat-racing season the "winner" yeller wakes up from his winter sleep and howls in the manner in which Scottish divines of the sixteenth century described the fiends and their victims in hell as doing. We have done our best to awaken the varied authorities which nominally govern London to a sense of their duties but little has been done so far. The London County Council passed a by-law after bitter opposition from Professor Stuart and those who think with him. It has not had much effect because the magistrates are so very unwilling to grant relief, with the honourable exception of Mr. Plowden who will convict newspaper hawkers on the complaint of a constable alone. We are glad to see that an association, calling itself "The Betterment of London Association," has been formed which is going to agitate for a variety of improvements which, if carried out, will certainly make London cleaner, healthier, and quieter. Among the matters with which the association will concern itself are the employment of children under 10 years of age in the streets, street hawkers and musicians, and the perpetual digging up of the streets by gas companies and others. These nuisances are quite enough to begin with, although there are plenty of others. The London County Council does admirable work from a health point of view. If it would do something to make London quieter there would not be so much grumbling at the perpetually rising rates. Perhaps if the Betterment of London Association were to worry county councillors, borough councillors, and the London Members of Parliament something might be done. Any way we wish the association all success.

AT the last meeting of the British Association a special committee, with Professor C. S. Sherrington as chairman, was appointed to consider the conditions of health essential to carrying on the work of instruction in schools. The committee now is collecting information, and communications from medical men bearing upon the subject will be gratefully received by Mr. White Wallis at 72, Margaret-street, W., the office of the Sanitary Institute.

BY the munificence of Professor William Whitla of Belfast the Ulster Medical Society will soon be in possession of a

fine building specially erected for its accommodation and destined no doubt to have an important effect in bringing together members of the medical profession in the North of Ireland. We trust that the society will have a prosperous existence in its new home.

A STATUE of Cecil Rhodes executed by Mr. John Tweed, the sculptor mentioned in Cecil Rhodes's famous will, is to be published immediately in a bronze 18 inches high. Full particulars may be obtained of Carfax and Co., Limited, 17, Ryder-street, St. James's, S.W., where a cast of the statue, a most vigorous and striking piece of work, may be inspected.

AN urgent appeal by University College, London, for over £1,000,000 has been brought before the public during the week by Lord Reay, President of the College. A Special Appeal Committee, including many influential names, has been formed and a public meeting has been arranged to take place at the Mansion House at a near date.

A FESTIVAL dinner to celebrate the sixty-sixth anniversary of St. Mark's Hospital, City-road, E.C., will take place on Thursday, April 24th, at the Whitehall Rooms of the Hôtel Métropole, London, at 7.30 P.M. The Right Hon. the Lord Mayor, Sir Joseph Dimsdale, M.P., will preside.

INTERNATIONAL CONFERENCE OF MEDICAL PRESS ASSOCIATIONS.

(FROM OUR SPECIAL COMMISSIONER.)

THE International Congress of the Medical Press which met in Paris from July 26th to 28th, 1900, was to have been followed by a succession of congresses destined to unite the medical press throughout the world. This scheme, however, was as vast as it was vague. The object of such a union was subject to varying and to contradictory interpretations. This was shown in the accounts which we published of the congress.[1] Indeed, so great were the difficulties that it was decided that the second congress should be preceded by a meeting of delegates. The medical press associations of various countries were each to appoint two or three delegates who would prepare a scheme to submit to the second congress for general discussion and adoption. This second congress was to have met in Brussels last year and it was intended that the delegates should have assembled in conference two or three days before the congress. But, as already explained in these columns, the multifarious correspondence in regard to the Brussels conference and congress gave evidence of such diversity of opinions that these proposals had to be abandoned for the time being. At one time it seemed as if the Paris congress would bear no fruit and that nothing further would be attempted. It was at this critical moment that the intervention of the Prince of Monaco saved the situation. There exists in the principality a medical society which in itself is a sort of international association, for the practitioners who reside at Monaco belong to many different nationalities. The president, Dr. V. Godineau, is a Belgian; the vice-president, Dr. R. Pryce Mitchell, is an Englishman; the general secretary, Dr. H. Guimbail, is a Frenchman; and among the other members there are Italian, Swiss, German, and Austrian practitioners. This society was aware that Prince Albert I. was most anxious to encourage scientific research and would like to see his principality become a neutral meeting-ground for all who sought to promote the cause of peace and scientific progress. Already an International Maritime Congress had met at Monaco. The medical society, and notably the general secretary, Dr. Guimbail, suggested that the representatives of the medical press associations should be invited to the principality, and this proposal was in complete harmony with the desire of the Prince. His Highness at once offered every hospitality and placed the Oceanographic Museum, which he is constructing, at the disposal of his guests. A tempting programme of entertainments was prepared and so many facilities were offered that the difficulties which stood in the way of the meeting at Brussels seemed to melt away like the winter snows on the sunlit shores of the Mediterranean. The permanent bureau or committee of the International Medical Press Association, which has its headquarters at Paris, and its general secretary, Dr. R. Blondel, actively seconded these proposals. It was finally decided that the international conference of the delegates of the medical press associations should be invited to meet at Monaco on April 7th. The object was to decide whether a sufficiently common ground of agreement could be found so as to establish definitely an International Medical Press Association, to draw up a scheme of statutes for such an association, and to fix upon a place of meeting for a general congress which would confirm or amend this scheme. All these objects have been attained. A set of rules or statutes was adopted and it was decided that an International Congress of the Medical Press would be held a few days previous to the meeting of the International Medical Congress which is to assemble at Madrid during the month of April next year. This plan of action is now endorsed by the delegates of the medical press associations of Austria, Bohemia, Belgium, Denmark, England, France, Germany, Holland, Italy, Norway, and Spain. In regard to the details of this conference the debates and the text of the resolutions adopted and a full and official report, based on shorthand notes taken at the time, will be published in the course of a few weeks. It will then be time enough to enter into the full consideration of, and to devote criticism to, the proceedings. For the moment it will suffice to give some account of the princely reception accorded to the 28 delegates who represented the above-mentioned nationalities.

The greater part of the delegates were received at the Hotel de Paris, where a special room was provided, so that they might have their meals together in private and discuss in an informal manner the business in hand. The formal opening ceremony was held on Monday, April 7th, in the Oceanographic Museum which was gracefully draped with flags of all nations and ornamented with flowers. The Prince of Monaco and suite were present. Professor Cornil (Paris) presided and His Excellency M. Olivier Ritt, Governor-General of the Principality, delivered an eloquent address of welcome on behalf of His Most Serene Highness Prince Albert I. of Monaco. Dr. Godineau then spoke very gracefully in the name of the Monaco Medical Society and speeches from the foreign delegates followed. In the evening the members of the conference were received in state at the palace. On the Tuesday there were business meetings in the morning and the evening and in the interval a visit was paid to the yacht of the Prince of Monaco. This is the third yacht which Prince Albert has caused to be constructed for the purposes of scientific research. The first was called *l'Hirondelle* and with this ship he carried out his investigations at the Azores. These related mainly to fishing and to ocean currents. A great number of metallic and glass bottles containing written explanations were dropped into the sea and, being ultimately picked up on different and distant coasts, the directions of various currents were thus determined. With the second yacht, *Princess Alice*, experiments were made to test the depth of the ocean. The apparatus required for such purposes is so weighty that a third and much larger yacht had to be built which is also called the *Princess Alice*. It was this last-mentioned ship which the members of the medical press conference visited. Here they were able to examine the cable weighing three tons, by which apparatus can be let down to a depth of 6000 metres. Even at this great depth living organisms, mainly shell-fish, were discovered and captured. On board there are three laboratories, one above the other, for chemical analyses, the preservation of specimens, &c. Two expeditions were made to the Arctic regions where at some risk to his life the Prince was able to prove that the same sort of fish existed as in the tropics when the lower depths of the ocean were reached. The result of all these journeys and researches are collected together in the Oceanographic Museum which is built on the extreme and farthest edge of the rock of Monaco. This building is destined as a meeting-place for *savants* from all parts of the world and especial facilities will be afforded for the study of the secrets of the ocean. It was here that the Prince was anxious to welcome the representatives of the medical press, for, as he himself put it, if the

[1] See THE LANCET, August 4th (p. 347), 11th (p. 454), and 18th (p. 520), 1900.

origin of life may be found in oceanic protoplasm its preservation rests in the hands of the medical profession. It was, therefore, as a man of science addressing himself to brothers in science that the Prince was desirous of offering hospitality in his principality to the representatives of the medical press.

To terminate the second day of the Conference a gala representation was given to the delegates at the Monte Carlo Theatre. On the Wednesday, the third day, the conference met in the morning and in the afternoon and Prince Albert made a point of being present at the closing ceremony. The delegates then proceeded with the Prince to assist at the inauguration of the new hospital which has just been built, and in the evening all the delegates dined with His Highness. But though the work of the conference was now terminated this did not conclude the entertainments offered. On the following (Thursday) morning the delegates were taken by a special train to La Turbie where there remain the ruins of the great tower built by the Emperor Augustus Cæsar. Here, high up among the offshoots of the Maritime Alps, the delegates were driven in carriages to the Nice Observatory. After viewing the instruments of this magnificent institution they returned to Monaco by the lower Corniche road, thus enjoying some of the finest mountain and seashore scenery of Europe. In the afternoon there was a classical concert and in the evening the delegates went to Nice where the mayor and municipality entertained them at a banquet at the new and palatial Imperial Hotel and at a gala performance at the opera house. It was not till after midnight that the delegates parted company on the platform of the Nice railway station. The members of the Monaco Medical Society wore special badges, by which they implied that they held themselves at the disposal of the delegates, and they all vied with each other in courtesy and in the rendering of every possible assistance. The greatest cordiality prevailed throughout, and for the successful issue of the conference the medical press is deeply indebted to His Highness Prince Albert I. and to the Monaco Medical Society.

Monaco, April 12th.

THE ROYAL COLLEGES AND THE INVESTIGATION OF CANCER.

WE announced some two months ago that the Royal College of Physicians of London and the Royal College of Surgeons of England had come to a joint resolution to draw up a detailed scheme for systematic investigation into the causes, prevention, and treatment of cancer. The delegates appointed by the two Royal Colleges have now submitted to their respective bodies the following scheme, and the subsequent step will be an influentially signed appeal to the public for pecuniary support.

DRAFT SCHEME.

I.—OBJECTS OF THE FUND.

IN order to promote investigations into all matters connected with, or bearing on, the causes, prevention, and treatment of cancer and malignant disease steps shall be taken—

1. To provide, extend, equip, and maintain laboratories to be devoted exclusively to cancer research.
2. To encourage researches on the subject of cancer within the United Kingdom or in the British Dominions beyond the seas.
3. To assist in the development of cancer-research departments in various hospitals and institutions approved by the Executive Committee.
4. And generally to provide means for systematic investigation in various other directions into the causes, prevention, and treatment of cancer.

Should the object of the fund be attained by the discovery of the cause and nature of cancer and of an effective method of treatment the Royal Colleges, with the consent of the trustees, shall be empowered to utilise the fund either (*a*) for equipping with the necessities for such treatment such hospitals as they may select, or (*b*) for forwarding research into other diseases.

The fund shall be administered by a president, vice-presidents, trustees, honorary treasurer, General Committee, and Executive Committee.

II.—THE PRESIDENT, VICE-PRESIDENTS, TRUSTEES, AND TREASURER.

1. The first President shall be ———
2. The first Vice-Presidents shall be ———
3. There shall be five trustees of the fund.
4. Of the first trustees three may be nominated by the donors of sums of £1000 and upwards and one each by the Royal Colleges of Physicians and of Surgeons.
5. In the event of vacancies occurring by death, resignation, or other cause the general committee may nominate new trustees and shall be called upon to do so in case the number shall fall below three.
6. All moneys other than annual grants or subscriptions, or sums specially given for definite objects or under special conditions, shall be invested as capital in the names of the trustees.
7. The first honorary treasurer shall be
8. In the event of a vacancy in the post of honorary treasurer the general committee shall appoint some person to that office.
9. The honorary treasurer may be one of the trustees.
10. The honorary treasurer shall be responsible for the receipt of all moneys on behalf of the fund.
11. The honorary treasurer shall pay over to the account of the Executive Committee all annual grants and subscriptions, as well as any sums specially given for definite objects or under special conditions.

III.—GENERAL COMMITTEE.

1. The general committee shall consist of: (*a*) the president; (*b*) the vice-presidents; (*c*) the five trustees; (*d*) the honorary treasurer; (*e*) the Executive Committee; (*f*) one member to be nominated by the Local Government Board; (*g*) one member to be nominated by the Colonial Office; (*h*) one member to be nominated by the Royal Society; (*i*) one member each nominated by the Royal College of Physicians of Edinburgh, the Royal College of Surgeons of Edinburgh, the Faculty of Physicians and Surgeons of Glasgow, the Royal College of Physicians of Ireland, and the Royal College of Surgeons in Ireland; (*j*) one member each nominated by the Royal Veterinary College, London, the Royal Veterinary College, Edinburgh, and the Royal Veterinary College of Ireland; (*k*) donors of sums of £1000 and upwards, whether given in one sum or more; with power to add to their number.
2. The General Committee shall nominate two members of the Executive Committee who shall hold office for three years and shall be eligible for re-election.
3. The General Committee shall meet from time to time to receive reports from the Executive Committee on the general progress of the scheme, an account of expenditure, and the audited financial statement.
4. The office of the General Committee shall (with the consent of the Royal Colleges) be at the Examination Hall, Victoria Embankment.

IV.—THE EXECUTIVE COMMITTEE.

1. The Executive Committee shall consist of:—

(*a*) The President (for the time being) and two Fellows of the Royal College of Physicians of London	3
(*b*) The President (for the time being) and two members of the Council of the Royal College of Surgeons of England	3
(*c*) Two members of the Laboratories' Committee of the Royal College of Physicians and Surgeons	2
(*d*) Two members nominated by the General Committee ...	2
(*e*) One member nominated by the Royal Society	1
(*f*) One member nominated by the Royal Veterinary College, London	1
	12

The members of the Executive Committee shall hold office for three years and shall be eligible for re-election.

2. The Executive Committee shall have control of the income of the fund, which shall be expended in furthering the objects stated in Section I., including the assignment of funds: (*a*) for the erection or extension of laboratories or for the equipment of any existing laboratory in which investigations are, or shall be, pursued; (*b*) for grants to individual workers in other laboratories or elsewhere; (*c*) for investigations other than those in laboratories; (*d*) for the collection of statistical, dietetic, topographical, and other information; (*e*) for the salaries of any officials who may be appointed.
3. The Executive Committee shall be charged with the general supervision and management of the arrangements to carry out the objects of the fund and shall be required to report their proceedings from time to time to the General Committee.
4. The Executive Committee may seek the advice of the members of the working and consultative staff on any questions relating to the objects of the fund and may appoint committees to conduct investigations, or to collect statistics and information, and may provide funds for the expenses of these investigations and for the remuneration of the members of these committees.
5. The Executive Committee shall apoint the working and consultative staff under such conditions as they may think desirable.
6. The Executive Committee may make arrangements for investigating methods of treatment in cases of cancer and malignant disease.
7. The Executive Committee may make arrangements to establish a system of correspondence with foreign and colonial laboratories and workers.
8. The Executive Committee may appoint a general superintendent of the investigations who may be director of the central laboratory and such assistants as may be considered necessary.
9. The Executive Committee shall draw up the regulations under which the work of the staff shall be conducted and shall determine the conditions under which laboratory accommodation at the Examination Hall or elsewhere may be provided.
10. The Executive Committee may appoint a secretary or other official to conduct the correspondence, summon and attend the meetings, keep the accounts, write the minutes, &c.
11. The Executive Committee may make contributions towards the development of the cancer research department of the Middlesex Hospital, or a similar department of any other hospital, if established.
12. And generally the Executive Committee shall make such arrangements as shall seem to them best for the thorough investigation of this disease in all its aspects.

V.—WORKING AND CONSULTATIVE STAFF.

1. The working staff shall consist of:—(*a*) A general superintendent of the investigations who may be the director of the central laboratory; (*b*) assistants to the general superintendent and director; (*c*) any other persons who may be appointed to make special investigations.
2. The consultative staff shall consist of persons skilled in scientific investigations, representatives of various home and colonial government departments, physicians and surgeons attached to hospitals, statistical experts, and others, appointed by the Executive Committee.
3. The consultative staff may receive fees for attendance at meetings

and may be remunerated for any services performed in connexion with the objects of the fund, on such conditions as the Executive Committee may determine.

THE VOLUNTEER MEDICAL ASSOCIATION.

THE annual dinner of the above association was held at the Hotel Cecil on April 9th, Surgeon-General W. TAYLOR, C.B., Director-General of the Army Medical Service, being in the chair. About 75 members and guests were present and amongst the latter were Surgeon-General Keogh, C.B., Deputy Director-General, Lieutenant-Colonel W. Babtie, V.C., R.A.M.C., Major W. G. Macpherson, R.A.M.C., and Colonel W. L. Gubbins, R.A.M.C., Principal Medical Officer of the Home District. Among the members supporting the chairman of the association, Brigade-Surgeon-Lieutenant-Colonel A. Clark, were the following:—Brigade-Surgeon-Lieutenant-Colonels Russell, Raglan, H. G. Thompson, G. Danford Thomas, H. W. Kiallmark, and C. Boyce; Surgeon-Lieutenant-Colonels M. Baines, F. W. Humphreys, A. Cooper, Adams, R. T. A. O'Callaghan, A. T. Norton, C.B., W. Gandy, and W. D. Waterhouse; Surgeon-Majors C. Godson, Dundas Grant, W. Culver James, F. E. Fenton, A. H. Robinson, W. J. Harnett, and J. J. de Z. Marshall; and Surgeon-Captains J. Cantlie, Macgregor, T. H. Openshaw, C. A. Goullet, and Sharpe.

After the usual loyal toasts had been proposed and heartily responded to Mr. HOWARD MARSH proposed "The Imperial Forces."

The CHAIRMAN then proposed the toast of the evening, "Success to the Association," and in the course of his remarks he alluded to the recent letters from the War Office sanctioning certain changes in respect to the Volunteer Medical Service, stretcher-bearer companies, &c. All that had been asked for had not been granted, but in future the bearer companies were to be separate units and to become an integral part of their respective brigades, the channel of communication being through the senior medical officer of the brigade. These units would draw their own capitation grants and other allowances, and a sergeant-instructor of the Royal Army Medical Corps would be attached to each company. An ambulance wagon would also be issued for drill purposes to each company. Should a bearer company find it convenient to make its headquarters the same as that of any particular battalion in the brigade and to become attached to the same, and should satisfactory arrangements be made, it might do so, but the members thereof would be supernumerary in every respect to the authorised establishment of the battalion. These arrangements would not interfere with the regimental medical officers who would continue to train regimental stretcher-bearers in the proportion of two men per company. With the exception of the Royal Army Medical Corps Volunteers, the compound titles would still continue to exist. With regard to increasing the number of brigade stretcher-bearers to 110 rank and file so as to provide for a field hospital no order had yet appeared, but, added Surgeon-General Taylor, anything that he could do to support this proposition he would do gladly as he appreciated the necessity for, and advisability of, the increase suggested. He concluded by expressing the opinion that the Volunteer Medical Association was doing good service and had done much in effecting the changes already mentioned; and in proposing success to the association he had much pleasure in coupling with the toast the name of Brigade-Surgeon-Lieutenant-Colonel A. Clark, the chairman of the council, and in expressing the hope that every volunteer medical officer would become a member of the association.

Brigade-Surgeon-Lieutenant-Colonel CLARK replied, and in thanking the Director-General for his kind promises of help so far as it lay in his power in perfecting the volunteer medical organisation he referred to the work of the council during the past year, which in a great measure had resulted in the changes of which they had heard that evening. They would be glad to have as members all the volunteer medical officers, and he looked forward to an increase in numbers in the course of the present year. Classes of instruction were arranged for those officers who wished to present themselves for examination and there was a very handsome challenge shield which was competed for annually by regimental stretcher-bearers. The council was always ready to receive and to consider all communications from members and their experiences, and when occasion required to take active steps towards obtaining improvements or reforms, and this could often be done more effectually by an organised association than by individual effort only. He thanked the Director-General for his presence that evening, and all those present for their hearty response to the toast.

Brigade-Surgeon-Lieutenant-Colonel DANFORD THOMAS proposed the toast of "The Visitors," which was responded to by Colonel GUBBINS, R.A.M.C.

The toast of "The Chairman" was then given by Surgeon-Lieutenant-Colonel A. COOPER, and was received with musical honours.

The DIRECTOR-GENERAL replied and then proposed the health of Surgeon-Major Marshall, the honorary secretary, in doing which he thanked him for the able manner in which he had arranged all the details for their entertainment that evening. This was warmly responded to.

During the evening selections of vocal music were given by the members and their friends.

THE ROYAL ORTHOPÆDIC HOSPITAL.

THE annual meeting of the Court of Governors of this hospital was held on April 10th at 15, Hanover-square, W., when Mr. H. Marks, the chairman of the Committee of Management, presided.

Dr. DAVID WALSH called attention to certain omissions from the report, as did also Mr. REEVES. Considerable discussion followed, but eventually the report was adopted. The report stated that the subscriptions amounted to £438, as compared with £452 in the previous year, and the donations to £475, against £547 in 1891. The income, exclusive of legacies, had reached £1900. King Edward's Hospital Fund had given a grant of £200. The total expenditure for the year had been £2881, being £65 less than in the previous year. The in-patients admitted were 255. In the out-patient department there were 1060 new patients and 4390 attendances. The total number of patients benefited by the hospital since its foundation had been 84,452. Mr. Marks was then elected chairman of the Committee of Management and the following gentlemen were appointed members of that committee: Mr. E. Flower, M.P., the Hon. Claude G. D. Hay, M.P., Mr. James Head, Major Ricarde-Seaver, Mr. H. A. Reeves, Mr. W. Gordon Campbell, Mr. Frank Mathews, and others. Mr. R. B. Martin, M.P., was re-elected honorary treasurer. The honorary surgeons and the auditors were also re-elected. Mr. Marcus Cuerton was elected a vice-president in consequence of the large amount of financial help which he had given to the hospital. Various officers were then reappointed. This concluded the business of the court and a special court was constituted to discuss the question of the hospital site and other matters. On the question of the hospital site Mr. MARKS moved:—

That the agreement made by the Committee of Management for the disposal of the existing site, having received the approval of the trustees and the Charity Commissioners, be ratified, and the governors hereby authorise the committee to take all necessary steps for the acquisition of the site and the erection thereon of a new hospital.

He said that the work of the hospital had been frequently hampered and seriously interrupted on several occasions owing to the unsatisfactory condition of the premises. The total cost of repairs had been £2160, an average of £432 per annum. In 1899 the committee of the hospital wished to sell the site for £28,000. This led to the appointment of a new committee who subsequently received an offer for the purchase of the site on a basis of 29 years' purchase at £1300 per annum, or £37,700. Subsequently a proposal was made that the site should be leased for 99 years at an annual rental of £1400 and that the lessees should have the option during three years to purchase at £40,000. The trustees considered this offer favourable and they recommended its acceptance. The Charity Commissioners considered the offer favourable and so did the committee. The present site was unsuitable for the reconstruction of a new hospital upon modern plans and approved lines.

Dr. WALSH said he thought that the scheme put forward was unbusinesslike. He had been told by an expert valuer that the present site of the hospital was worth £63,000. The matter ought to be referred to a court of abitration or the value tested by putting the site up to public auction, and

he alleged that the present meeting was illegal, inasmuch as the rules of the charter of incorporation had not been complied with and any person buying the hospital would do so on an insecure tenure.

Mr. E. FLOWER, M.P., supported the motion.

Mr. R. B. MARTIN, M.P., regretted that it should be necessary to remove the hospital, but he had come to the conclusion that there was no other alternative.

Mr. REEVES took the point of view that the present site ought to be retained.

After a prolonged discussion Mr. FLOWER moved that the question be now put. This was carried and the original motion was adopted.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY meeting of the Council was held on April 10th, Mr. HENRY G. HOWSE, the President, being in the chair.

Sir William H. Bennett, K.C.V.O., Mr. Frederic S. Eve, and Mr. W. Watson Cheyne, C.B., made declarations in the terms of the oath prescribed by the Charter of 1800 and were admitted members of the Court of Examiners.

It was resolved to connect the College with the telephone system.

The subject for the Jacksonian Prize for the year 1903 was chosen—namely, "The Various Forms of Conjunctivitis: their Pathology and Treatment."

On the recommendation of the Nomination Committee it was resolved:—

That it is inexpedient that any member of the Court or of any Board of Examiners of the College should conduct or assist in conducting any preparatory or special course of instruction or tutorial class, either with or without emolument, in the subject in which he is an examiner other than his recognised and regular course.

Sir William Bennett and Mr. C. H. Golding-Bird were elected members of the Court of Examiners Section of the Board of Examiners in Dental Surgery.

Mr. William Henry Power, principal medical officer of the Local Government Board, and Dr. George Bagot Ferguson, President of the British Medical Association, were elected to the Fellowship as Members of over 20 years' standing.

A draft scheme for organising cancer research was submitted and the Council gave its general approval to the scheme.

Mr. F. Richardson Cross was nominated a delegate of the College to the annual congress of the Royal Institute of Public Health to be held in Exeter from August 21st to 26th.

THE METROPOLITAN WATER-SUPPLY.

VII.[1]

THE NEW RIVER COMPANY.

THE New River is the oldest of all companies which supply water to London and of late years it is one of those which has given little cause for complaint on the part of its customers. Readers of some of the previous articles of the present series cannot have failed to notice that the quality of the water supplied by the New River Company has been proved to be superior to that distributed by many of the other undertakings. It is, however, quite true that in regard to the absence of constant service complaints have been made in the City of London within the last few years, but in this case the citizens had no just right to expect sympathy, for the remedy has long been in their own hands and their own apathy alone deserves blame. The citizens have also intermittently and rather plaintively complained of the price which they have had to pay for the water,[2] yet the New River Company has not exacted, and doubtless has been well advised in not exacting, the full rents which were due under the statutory regulations which fix the maximum charges. The full title of the company is "The Governour and Company of the New River brought from Chadwell and Amwell to London." The Acts for enabling the enterprise to be carried out were passed in the early years of the reign of James I. (3 James I., c. 18, and 4 James I., c. 12) and the company was afterwards incorporated (June 21st, 17 James I.). It is not necessary here to give an account of the early history of the adventure and those who may be interested in the original charter will find it amongst the Patent Rolls at the Record Office, No. 2214 (67). It is not without importance to note that of the original sources of supply the Amwell spring has long ceased to discharge its water into the New River and that the flow of the Chadwell springs has been steadily diminishing during the last few years—a fact very clearly brought out by Lord Robert Cecil at the Llandaff Commission. More than one attempt was made to obtain the sanction of Parliament to the charter of James I. and Bills to that effect were introduced into the House of Commons in 1621, in 1623, and in 1642. It seems, however, that the Members objected to confirm a monopoly by Act of Parliament.

The first Act obtained by the company after the reign of James I. was passed in 1738 (12 Geo. II. c. 32) and by this Statute the company was allowed to take water from the river Lee upon the payment of an annual sum which was to be spent in improving the navigation of the river. In addition to this only two Acts having reference to the company where passed before the middle of the last century (12 Geo. II. cap. 32 and 3 Geo. IV. c. 109). In the year 1850 the sources of supply of the company were the river Lee, Chadwell springs, and wells at Amwell, Amwell-hill, Cheshunt, and Hampstead-road. There were two reservoirs at Cheshunt comprising an area of over 18 acres, two at Stoke Newington having an area of 42½ acres, and one reservoir at New River head having an area of five acres. None of the water was filtered and the only method of purification adopted was that due to subsidence. At Cheshunt, where the water was derived from the higher ground to the north of the reservoirs, it was generally retained for a month to undergo purification. The company maintained that the water was also much improved in passing down the New River in the course of its transit. The current flowed gently and there was therefore "much time for the deposit of any alluvial matter" which it might contain, and this was markedly the case at five enlarged portions of the river.

Between the years 1850 and 1855 considerable alterations were effected in the works of the company, but it is evident from the remarks on the undertaking contained in the reports made to the General Board of Health[3] that there was considerable delay in making necessary improvements. The Metropolis Water Act had then been passed and the company had obtained three additional private Acts (15 and 16 Vict., c. 160; 17 Vict., c. 39; and 17 Vict., c. 72). Of these, one enabled the company to divert the Hertford sewerage from the point at which it entered the Lee above the intake which led to the New River, but nothing has been done towards carrying out the work. On this matter the report referred to having emphasised the fact that at that time the Lee was the main source of the company's supply, continued to point out that "under these circumstances it does seem important that the drainage of Hertford which discharges immediately above this source of supply should be diverted from it," and a hope was expressed that the powers obtained by the company to effect this object would soon be put into operation. It is evident that at this period the sources of the water were open to objection. In regard to other important matters, however, improvements had been made. Five filter beds, having together an area of six and a half acres, had been constructed at Stoke Newington, three filter beds covering an area of two and a half acres had been made at the New River head, Claremont-square reservoir had been covered over (as required by the Metropolis Water Act, 1852), and two new covered service reservoirs had been built at Maiden-lane. It seems rather curious that at this period the "length of pipage possessed by the company" was not accurately known. The quantity of water pumped for distribution daily was 25,000,000 gallons and the number of tenements supplied was 95,083. The supply was given "daily,

[1] Articles I., II., III., IV., V., and VI. appeared in THE LANCET of March 1st (p. 614), 8th (p. 692), 15th (p. 767), 22nd (p. 842), and 29th (p. 915), and April 5th (p. 988), 1902, respectively.

[2] At the Llandaff Commission the City Remembrancer suggested that the price paid was not less than that which would have been paid for beer. The charges due are made on the rateable value of a property, not on the amount of water consumed on the premises.

[3] General Board of Health Reports to the Right Hon. William Cowper, M.P., President of the General Board of Health, on the Metropolis Water-Supply, under the provisions of the Metropolis Water Act, London, 1856.

Sundays excepted," to all parts of the district "and where necessary in the poorer localities" on Sundays also. It is noted in the report already quoted that "the New River head is not a very desirable locality for filter beds." It seems somewhat strange that the Clerkenwell station should have remained in use for that purpose even to the present day; it shows a truly conservative spirit on the part of the directors of the company, and from a sentimental point of view it would be a matter for much regret should the New River head be destroyed.[4]

Of late years very many improvements have been made in the works of the New River Company and the way in which the New River itself has been kept has of late, we believe, been in accord with the best traditions of the enterprise. A full description of the river itself and of the method by which it was protected and the manner in which it was worked was given in THE LANCET Special Commission on the Metropolitan Water Supply.[5] It is unnecessary to repeat what was there stated. At the time at which the survey was made much had recently been done to ensure the purity of the river and the company had not, as was the case with many of the other undertakings, a large amount of accumulated arrears of neglected work to make good. Table I. gives in parallel columns statistical details compiled from information given by the New River Company for the month of June, 1897, and the corresponding figures derived from the Water Examiner's report for the month of June, 1901.

TABLE I.—*Giving Statistical Details for the Month of June, 1897, and the Month of June, 1901, from Information given by the New River Company and the Report issued by the Water Examiner*

—		June, 1897.	June, 1901.
Supply	Average daily supply in gallons (filtered)	34,646,498	39,650,229
	Number of houses supplied	162,169	173,093
	Number of houses on constant supply	129,017	164,529
	Estimated population supplied	1,176,009	1,254,685
Reservoirs, subsiding and storage	Number	20	20
	Area in acres	99½	99½
	Available capacity in gallons	168,100,000	168,100,000
Storage filtered water reservoirs	Number	11	12
	Capacity in gallons	37,540,000	38,240,000
Water-pipes	Total number of miles of water-pipes	841	880
	Number of miles of water-pipes in the metropolis	781	806
	Number of hydrants erected within the metropolis: public fire	6,517	7,723
	Number of hydrants erected within the metropolis: street-watering	618	715
	Number of hydrants erected within the metropolis: private fire	4,296	5,154
Filters	Number of beds	20	20
	Area in acres	16½	16½
Sources and amount of water filtered and pumped, daily average in gallons	Springs and wells	13,359,635	19,057,410
	River Lee	21,286,863	20,592,815
Sources and amount of water delivered unfiltered, daily average in gallons	Ponds	3,904	2,149
	Springs and wells	2,197,361	2,296,696
	River Lee	1,148,337	1,842,395

The table shows that no great changes were made in the arrangements of the company between June, 1897, and June, 1901. The most noteworthy thing in the table is, perhaps, the fact that an increased amount of water was derived from "springs and wells" during the later period (June, 1901). It is to be regretted that full particulars are not accessible as to the amount of water derived from each of the wells possessed by the company. In the so-called "details" supplied to the Water Examiner the whole amount of water derived from springs and wells is given, but there is absolutely no "detail" as to the amount derived from any particular well. It is known that the pumping at one well affects the water level at another well belonging to the company, but the most obstinate reticence has been adopted by the directors in withholding information as to the water level in the wells. A great deal of evidence has been given by independent witnesses as to the way in which that part of the county of Hertfordshire which is adjacent to the pumping stations of the New River Company has of late years suffered from the depletion of water, and it is a matter of great importance that the exact state of the case should be known. If one of the most important recommendations given by the Balfour Commission had been acted upon the facts would now be known accurately.

The sources from which the New River obtains the water for drinking purposes are the River Lee and a number of wells, but to provide for future contingencies the company has joined in the Staines reservoir scheme and therefore in the ordinary course of events the customers of the company will some day be supplied in part at least by water derived from the Thames. During last year the water supplied by the company was generally of excellent quality, but it contained more organic carbon and more organic nitrogen than that supplied by the Kent Company. The results of the examinations made by the analyst appointed by the Local Government Board are given in Table II. It will be noticed that the quality of the Kent water varied very little, but that of samples taken of the New River water was not always equally good.

TABLE II.—*Showing the Results of Analysis expressed in Parts per 100,000 of Organic Carbon and of Organic Nitrogen in the Water supplied by the West Middlesex Waterworks Company, the New River Company, and the Kent Company in each Month of the Year 1901 and in the Month of January, 1902. (Compiled from the Reports of the Results of Analysis made by Dr. T. E. Thorpe, F.R.S., on behalf of the Local Government Board.)*

Year and month.	Organic carbon, expressed in parts per 100,000.		Organic nitrogen, expressed in parts per 100,000.	
	New River Company.	Kent Company.	New River Company.	Kent Company.
1901.				
January	0·070	0·039	0·010	0·008
February	0·073	0·044	0·012	0·010
March	0·141	0·043	0·013	0·010
April	0·124	0·043	0·012	0·008
May	0·081	0·042	0·013	0·006
June	0·068	0·036	0·009	0·007
July	0·062	0·058	0·010	0·012
August	0·049	0·038	0·007	0·005
September	0·115	0·037	0·013	0·009
October	0·046	0·058	0·010	0·007
November	0·070	0·055	0·009	0·009
December	0·093	0·048	0·009	0·006
1902.				
January	0·077	0·059	0·008	0·006

In Dr. T. E. Thorpe's report on the sample of water examined in March, 1901, he says: "The New River Company's water during March was inferior to that delivered in February, mainly on account of the higher amounts of organic matter found in samples taken in the middle of the month"; he adds, "this company's water was, however, always superior to that of the Thames companies." The sample of which the one full analysis was made was taken on March 18th from the cab rank, Tottenham-court-road. Dr. Thorpe's report on the water analysed in April states that "the New River water was much ..... superior to any of the Thames-derived supplies." The one sample of which a full analysis was made was taken from the cab rank at Canonbury station. In regard to the supplies given in

[4] Myddelton here built a house for the Governor of the company; it must have been a most pleasant place.

[5] THE LANCET, Oct. 23rd to Dec. 18th, 1897, inclusively.

September Dr. Thorpe says that "the New River Company's water on a few occasions was found to contain somewhat more organic matter than usual." It will be seen that the results of the one full analysis made during that month which are given in the above table show this increase. The sample was taken from the cab rank near St. Clement's Danes Church, Strand, on Sept. 10th. Dr. Thorpe further says that "from information supplied by the secretary of the company it appears that these abnormal results were due to an admixture of filtered Thames water, this being necessary in connexion with the arrangements whereby the East London Company has been assisted during the past month." From this it is evident that the New River Company cannot always "assist" the East London Company without prejudicing the interests of its customers by supplying them with water of a quality inferior to that to which they have been accustomed. The present working of the intercommunication scheme is certainly unfair to them and it ought not to be allowed to continue for an indefinite time.

Public Health and Poor Law.

LOCAL GOVERNMENT BOARD.

REPORTS OF MEDICAL OFFICERS OF HEALTH.

Cardiff Port District.—In his report for the last quarter of 1901 Dr. Edward Walford gives the results of the examination in a bacteriological sense of samples of drinking water taken from vessels frequenting this port. The number of micro-organisms at 37° C. ranged from 36,000 per cubic centimetre to 76 per cubic centimetre. Although no information is given as to the nature of any of the organisms found the numbers detected in several instances suggest the need of a reform in the methods of water storage on board the vessels from which the samples were taken. Cardiff is an important channel through which frozen meat finds its way from South America into this country, and it is assuring to learn that this meat is duly inspected on arrival and that a notice of the destination of the cargo is sent to the sanitary authority of the district to which the meat is consigned.

Aston Manor Urban District.—The vital statistics of this district within recent years are not altogether encouraging to the sanitary administration of the council. When the figures for 1882–91 are compared with those for 1892–1901 the only diminution detectable is in the birth-rate which has fallen from 34·1 to 33·2 per 1000. The general death-rate has increased from 16·1 to 16·4 per 1000 and the zymotic death-rate from 2·7 to 3·5 per 1000, while the infantile mortality has risen from 145 to no less than 177 per 1000 births. Infantile diarrhœa seems, as usual, to have accounted for much of this latter mortality but this does not adequately explain why the total infantile mortality has gone on increasing. In order to arrive at an accurate conclusion as to this the causes of the deaths of infants should be further differentiated and contrasted year by year. As Mr. Francis H. May remarks this increasing infantile mortality will result in altering the age distribution of the population.

Crewe Urban District.—Dr. Alfred Greenwood, the medical officer of health of this district, made an effort during 1901 to bring about the notification of sickness through the agency of the 27 friendly societies in Crewe. The corporation offered to pay to the secretaries of these societies a fee of 2*d.* per case. But this reward induced only 17 out of the 27 societies to respond. Dr. Greenwood explains that he hoped in this manner to obtain information with regard to cases of phthisis and diarrhœa which would otherwise not be brought under his notice. It is not stated if the cost of postage is defrayed by the corporation and in view of the small amount here in question this item may be worth consideration.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In 76 of the largest English towns 9494 births and 4971 deaths were registered during the week ending April 12th. The annual rate of mortality in these towns, which had been 18·2 and 17·6 per 1000 in the two preceding weeks, further declined last week to 17·4 per 1000. In London the death-rate was 17·3 per 1000, while it averaged 17·5 in the 75 other large towns. The lowest death-rates in these towns were 5·5 in Hornsey, 7·8 in Reading, 9·1 in Newport (Mon.), 10·1 in Leyton, 10·8 in Bury, 11·0 in Bournemouth, 11·1 in Wallasey, and 11·2 in Warrington; the highest rates were 22·1 in West Bromwich, 22·2 in South Shields, 22·3 in Barrow-in-Furness, 25·2 in Huddersfield, 25·9 in Hanley and in Merthyr Tydfil, 26·0 in Burnley, and 28·5 in Middlesbrough. The 4971 deaths in these towns included 596 which were referred to the principal zymotic diseases, against 602 and 572 in the two preceding weeks; of these 596 deaths 161 resulted from measles, 145 from whooping-cough, 94 from small-pox, 85 from diphtheria, 45 from scarlet fever, 44 from diarrhœa, and 22 from "fever" (principally enteric). No death from any of these diseases occurred in Hornsey, Bournemouth, Reading, Ipswich, Handsworth, Smethwick, Wallasey, Warrington, Bury, York, or West Hartlepool; the highest zymotic death-rates were recorded in Tottenham, West Ham, Hanley, Burnley, Blackburn, Barrow-in-Furness, Middlesbrough, and Stockton. The greatest mortality from measles occurred in Willesden, Oldham, Rochdale, Burnley, Blackburn, and Barrow-in-Furness; from scarlet fever in Burton-on-Trent, West Bromwich, and Stockport; from diphtheria in Portsmouth, Hanley, Burnley, Middlesbrough, and Rhondda; from whooping-cough in Devonport, Wolverhampton, Aston Manor, Barrow-in-Furness, Stockton, and South Shields; and from diarrhœa in Walsall and King's Norton. The mortality from "fever" showed no marked excess in any of the large towns. The fatal cases of small-pox registered last week included 73 in London, 15 in West Ham, three in Tottenham, two in Swansea, and one in Walthamstow. The number of small-pox cases under treatment in the Metropolitan Asylums hospitals, which had been 1567, 1526, and 1522 at the end of the three preceding weeks, had further declined to 1437 on Saturday, April 12th; 274 new cases were admitted during the week, against 449, 389, and 376 in the three preceding weeks. The number of scarlet fever patients in these hospitals and in the London Fever Hospital at the end of last week was 2146, against numbers decreasing from 3137 to 2126 on the 15 preceding Saturdays; 264 new cases were admitted during the week, against 258, 250, and 228 in the three preceding weeks. The deaths referred to diseases of the respiratory organs in London, which had been 388, 360, and 317 in the three preceding weeks, further declined last week to 299 and were 67 below the corrected average number. The causes of 59, or 1·2 per cent., of the deaths in the 76 large towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in West Ham, Nottingham, Salford, Bradford, Leeds, Newcastle, and 41 other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Wigan, Warrington, Blackburn, Sunderland, and South Shields.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 20·3 and 21·3 per 1000 in the two preceding weeks, further rose to 22·1 per 1000 during the week ending April 12th, and was 3·7 per 1000 in excess of the mean rate during the same period in the 76 large English towns. The rates in the eight Scotch towns ranged from 13·9 in Leith and 20·1 in Edinburgh to 25·1 in Aberdeen and 26·5 in Greenock. The 715 deaths in these towns included 21 which resulted from whooping-cough, 10 from measles, eight from scarlet fever, eight from diarrhœa, five from "fever," two from small-pox, and two from diphtheria. In all 56 deaths resulted from these principal zymotic diseases last week, against 59 in each of the two preceding weeks. These 56 deaths were equal to an annual rate of 1·7 per 1000, which was 0·4 below the mean rate last week from the same diseases in the 76 large English towns. The fatal cases of whooping-cough, which had been 13 and 14 in the two preceding weeks, further increased last week to 21, of which eight occurred in Aberdeen, seven in Glasgow, two in Edinburgh, and two in Dundee. The deaths from measles, which had been 14 and 11 in the two preceding weeks, further declined to 10 last week, and included four in Glasgow, three in Edinburgh, and two in Dundee. The fatal cases of scarlet fever, which had been

three and eight in the two preceding weeks, were again eight last week and included four in Glasgow and three in Greenock. The deaths from diarrhœa, which had been 25, 22, and 15 in the three preceding weeks, further declined last week to eight, of which three were registered in Leith, two in Glasgow, and two in Edinburgh. The fatal cases of "fever," which had been four, one, and four in the three preceding weeks, further rose to five last week and included three in Glasgow. The two deaths from small-pox corresponded with the number in the preceding week and both occurred in Glasgow, where the two fatal cases of diphtheria also were recorded. The deaths referred to diseases of the respiratory organs in these towns, which had been 217, 173, and 160 in the three preceding weeks, rose again last week to 188, and were 33 in excess of the number in the corresponding period of last year. The causes of 34, or nearly 5 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 22·4, 27·5, and 26·8 per 1000 in the three preceding weeks, further declined to 26·7 per 1000 during the week ending April 12th. During the past four weeks the death-rate has averaged 25·9 per 1000, the rate during the same period being 18·6 in both London and in Edinburgh. The 194 deaths of persons belonging to Dublin registered during the week under notice showed a slight decline from the number in the preceding week, and included 11 which were referred to the principal zymotic diseases, against seven and six in the two preceding weeks; of these, four resulted from diarrhœa, three from measles, two from whooping-cough, and two from "fever." These 11 deaths were equal to an annual death-rate of 1·5 per 1000, the zymotic death-rates during the same period being 2·6 in London and 1·4 in Edinburgh. The deaths from measles, which had been one in each of the three preceding weeks, increased last week to three. The mortality from whooping-cough, from "fever," and from diarrhœa was also in excess of that recorded in the preceding week. The 194 deaths in Dublin last week included 34 of children under one year of age and 47 of persons aged upwards of 60 years; the deaths of infants slightly exceeded the number in the preceding week, while those of elderly persons showed a slight decline. Six inquest cases and six deaths from violence were registered during the week, and 83, or more than two-fifths, of the deaths occurred in public institutions. The causes of 12, or more than 6 per cent., of the deaths registered in Dublin last week were not certified.

THE SERVICES.

ROYAL NAVY MEDICAL SERVICE.

THE following appointments are notified:—Fleet Surgeons: G. D. Twigg to the *Duke of Wellington* and Anthony Kidd to the *Benbow*. Surgeon T. B. Shaw to the *Duke of Wellington*.

IMPERIAL YEOMANRY (IN SOUTH AFRICA).

35th Battalion: John J. Scanlan to be Medical Officer, with the temporary rank of Captain.

ROYAL ARMY MEDICAL CORPS.

Lieutenant-Colonel Henry J. W. Barrow to be Colonel, vice E Townsend, promoted. Dated Sept. 25th, 1901.

Lieutenant-Colonel Robert Oriel Cusack retires on retired pay on account of ill-health. Dated April 16th, 1902.

The undermentioned officers retire on retired pay (dated April 16th, 1902):—Lieutenant-Colonel George Herbert Le Mottée and Lieutenant-Colonel R. W. E. H. Nicholson.

Captain J. Grech joins at Aldershot and is posted to the Connaught Hospital for duty. Major C. T. Blackwell, Aldershot, proceeds to South Africa. Major G. T. Alexander rejoins at Aldershot from a tour of trooping duty, and is posted to the Connaught Hospital.

ROYAL ARMY MEDICAL CORPS (MILITIA).

Supernumerary Lieutenant J. Clarke to be Captain and to remain seconded.

IMPERIAL YEOMANRY.

Nottinghamshire (Sherwood Rangers): George Thomson to be Surgeon-Lieutenant. Northamptonshire: Edward Milward Knott to be Surgeon-Lieutenant.

The undermentioned officers resign their commissions and receive new commissions subject to the provisions of the Militia and Yeomanry Act, 1901, each retaining his present rank and seniority, viz.:—

Royal North Devon (Hussars): Major and Honorary Lieutenant-Colonel W. N. Hoare and Surgeon-Captain J. R. Harper. Fifeshire and Forfarshire: Surgeon-Captain T. F. Dewar. Herts: Surgeon-Captain L. Drage. Lanarkshire: Surgeon-Major R. E. Wood. Norfolk (King's Own): Surgeon-Captain J. F. Gordon Dill. Warwickshire: Surgeon-Captain R. Bullock.

VOLUNTEER CORPS.

Royal Garrison Artillery (Volunteers): 1st Banff: Norman Davidson to be Surgeon-Lieutenant. 1st Edinburgh (City): Surgeon-Lieutenant R. B. Purves to be Surgeon-Captain.

Royal Engineers (Volunteers): East London (Tower Hamlets): John William Thomson Walker to be Surgeon-Lieutenant.

Rifle: 1st Volunteer Battalion the Manchester Regiment: Surgeon-Lieutenant J. Orr to be Surgeon-Captain. 2nd Cadet Battalion the King's (Liverpool Regiment): Frederic Henry Allfrey to be Surgeon-Lieutenant. 3rd Volunteer Battalion the Lincolnshire Regiment: Henry Stanley Walker to be Surgeon-Lieutenant.

ROYAL ARMY MEDICAL CORPS (VOLUNTEERS).

The Woolwich Companies: Supernumerary Lieutenant M. Taylor to be Captain and to remain Supernumerary. The Maidstone Companies: John Monkhouse Rogers-Tillstone to be Lieutenant.

VOLUNTEER INFANTRY BRIGADE BEARER COMPANY.

4th London: Surgeon-Captain A. C. Tunstall, from the 1st Tower Hamlets Volunteer Rifle Corps, to be Surgeon-Captain, and to command the Company under paragraph 55A Volunteer Regulations.

SOUTH AFRICAN WAR NOTES.

Civil Surgeon Miles, dangerously wounded, was reported slightly improved on April 11th.

The following have been discharged from hospital to duty:—Lieutenant-Colonel J. C. Culling, R.A.M.C., Major S. Butterworth, R.A.M.C., and Civil-Surgeons Corby and Balfour.

THE DUTY OF THE MEDICAL DEPARTMENT ON THE FIELD OF BATTLE.

In a recent discourse pronounced by Dr. Choux, principal medical officer of the Paris garrison, with reference to the special military medical manœuvres which were held under the auspices of the commandant of the city, allusion was made, amongst other important matters, to the duty of the medical department on the field of battle. The subject is one that has excited great attention of late years, and evidently there is now a tendency to question the expediency of exposing non-combatants within the zone of fire. The spectacle of a medical officer, adequately seconded, amputating a wounded man's leg under a hail of missiles is certainly very fine and flattering, but, unfortunately, says Dr. Choux, it is based on a false conception of the condition of things during a battle and by no means represents the reality. What the wounded man wants is to be placed in a safe place. As Lehrnbecker has it: "He has now only one desire, one object—to be withdrawn out of reach of additional wounds which will make an end of him." General Verdy du Vernois in his "Studies" doubts whether medical officers and their subordinates render any real service under fire. Port, who went through the war of 1870–71, shares this view, and so likewise do the German surgeons Peltzer and Scholtz. Pirogoff, the veteran, is of opinion that a medical officer in going under fire loses valuable time which might be better employed elsewhere. Summing up the argument Dr. Choux comes to the conclusion that medical officers should only venture into the fighting line during pauses. An engagement in these days is not continuous. There are intervals of calm, of tacit truce, and the surgeon should, without losing an instant, take advantage of these to explore the field and to remove the wounded. Stopping to dress them where they lie is time wasted and the wounded themselves would much prefer to be taken as quickly as possible to a place of safety. Absolutely indispensable dressings alone should be applied, for the action may again become active at any moment. In

fine a medical officer's duty on the field of battle consists, says Dr. Choux, first, in removing his patient out of danger; secondly, in ministering to his sufferings, and especially to his thirst; and thirdly, in attending to his wounds. 99 out of 100 wounded men would welcome the appearance of trained bearers rather than that of the most skilful surgeon.

THE MEDICAL STAFF CORPS.

Mr. W. Carlile, M.P., who recently introduced a deputation of medical officers to Lord Raglan, has received from Sir E. W. D. Ward, Permanent Secretary of the War Office, a letter communicating the decision of the Secretary of State upon the points raised. The following are some of the more material portions of the official reply:—

While the Volunteer Medical Staff Corps, officers and men, have been affiliated to the Royal Army Medical Corps, under the title of the Royal Army Medical Corps (Volunteers), by Army Order 28 of 1902, and the compound title of the officers abolished, Mr. Brodrick does not consider it advisable to interfere with the position of medical officers belonging to regiments or corps, their *status* being quite different from that of officers of the Royal Army Medical Corps (Volunteers).

Mr. Brodrick further does not consider there is any necessity for the appointment of a volunteer medical officer to the office of the Director-General, or as a member of the advisory board for army medical services, as the interests of the volunteer medical service are already considered and duly safeguarded. It is also deemed unnecessary to introduce additional examinations for promotion. Mr. Brodrick, however, is of opinion that the period of service required for promotion to the rank of Surgeon-Major, or Major, in the Royal Army Medical Corps (Volunteers) should be reduced from 15 years to 12, and intimates that steps will be taken accordingly. The formation of the bearer companies of the volunteer infantry brigades as independent units has been authorised, and Mr. Brodrick trusts that this step may be to the advantage of the whole volunteer medical service, and that it will add to the efficiency of the brigades themselves. Careful consideration is being given to the questions of the provision of equipment and the allotment of volunteer medical officers for duty on mobilisation. The rates of pay and allowances for volunteer medical officers of all branches of the service have been arrived at after mature consideration and it is not apparent that there is any reason for departing from the scales approved.

The communication concludes with the announcement that the Secretary of State is prepared to approve of the granting of a step of honorary rank (on retirement only) under the same conditions as those operating for other branches of volunteers up to and including the rank of Honorary Surgeon-Colonel, or Colonel, in the Royal Army Medical Corps (Volunteers).

FOREIGN AMBULANCES FOR SOUTH AFRICA.

Aid to the sick and wounded in war on the part of neutral powers has, theoretically speaking, much to commend it to support and encouragement if only on the score of humanity, but nevertheless it opens up some difficult questions. It appears that Vicomte Villebois-Mareuil applied to the War Office for permission to supply an ambulance with its staff and accessories to the Boers in South Africa. While the receipt of the Vicomte's application was acknowledged in courteous terms befitting the occasion his request was not acceded to owing to the fact that similar requests received from other foreign Red Cross societies had been refused. It had been found that these foreign ambulances had not been always used exclusively for their intended purpose. It may be easily understood that ambulances and international systems of relief of this kind may, with the best intentions in the world on the part of their promoters, be open to this objection, especially where the sympathies are strongly on one side or the other. Moreover, the tendency of such organised systems, it might be urged, is, by taking care of their sick and wounded, to relieve the belligerents of much of the cost and responsibility of war. In proportion as a Government has not to provide for its sick and wounded the more money will it have to spend in the purchase of shot and shell and the better will a general be enabled successfully to prosecute a campaign. It is extremely difficult, too, for an international aid society to balance its services equally and fairly between two belligerent forces. With national aid societies the case is altogether different, for here the nation and the Government are supposed to be animated by a common purpose and to the working together to a common end.

MEDICAL AID TO THE WOUNDED DURING THE SEA BATTLES OF THE FUTURE.

In a recent article in the *Archives de Médecine Navale* Dr. Léo protests vigorously against what he maintains is the prevailing and paralysing notion that in the naval battles of the future the wounded will have to be left untended during the progress of active hostilities. With the best will in the world, it was argued, the inevitable condition of things at such times would render effective medical intervention an impossibility; and, moreover, owing to the multiplicity of indispensable fighting material with which modern warships are encumbered, there is no space available for properly constructed hospitals. These arguments were repeated over and over again *usque ad nauseam*, but they were none the less misleading fallacies. For many years Dr. Léo has combated these deplorable errors, not only exposing their lack of foundation, but also indicating the remedy. There is nothing chimerical, he says, or incapable of realisation in his *desideratum*. As he lately showed the *Suffren*, a new French ironclad, lends itself extremely well to the kind of medical installation which he recommends. Unquestionably every war vessel should be fitted with an armoured refuge for the wounded and also with adequate passages leading to it from all parts.

GALLANTRY OF MEDICAL OFFICERS.

It has frequently been our gratifying privilege during the present war in South Africa to call attention to the gallant and self-sacrificing way in which medical officers have performed their duties. In his despatch describing the engagement which took place on April 7th last at Tweebosch in the Lichtenburg district General Lord Methuen states that Colonel E. Townsend, C.B., C.M.G., R.A.M.C., the principal medical officer of his (Lord Methuen's) force, remained in the fighting line until he had received three wounds. "He has from the commencement of the campaign always acted most gallantly." And in the same despatch it is further stated that Civil Surgeon Prentice, with the rearguard, and Captain H. S. Thurston, R.A.M.C., with the guns, continued to afford surgical aid to the wounded throughout the engagement. Considering how fierce the fighting was and how heroic was the stand made on that occasion by detachments of the Northumberland Fusiliers and Loyal North Lancashire Regiment and a section of a field battery of Royal Artillery some estimate may be formed of what this meant.

ROYAL NAVY MEDICAL SERVICE REGULATIONS.

A new Order in Council dated March 24th has been issued dealing with the regulations for the entry of candidates for commissions in the Medical Department of the Royal Navy and with the regulations as to medical officers.

A Memorandum dated War Office, April 15th, 1902, states that the undermentioned officers resign their commissions and receive new commissions subject to the provisions of the Militia and Yeomanry Act, 1901, each retaining his present rank and seniority, viz.:—Montgomeryshire: Surgeon-Lieutenant F. E. Marston. North Somerset: Surgeon-Lieutenant-Colonel J. Saville.

Colonel J. S. Wilkin, D.S.O., I.M.S., has been specially deputed to proceed to South Africa to supervise the concentration camps in the Transvaal and Orange River Colony.

FOREIGN UNIVERSITY INTELLIGENCE.—*Berlin:* Dr. Albert Hoffa of Würzburg has been appointed Extraordinary Professor of Surgery in succession to the late Dr. Wolff.—*Genoa:* Dr. Ambrogio Cuneo of Rome has been recognised as *privat-docent* of Surgical Anatomy and Operative Medicine.—*Giessen:* The chair of Gynæcology having been declined by Professor von Herff of Basle, to whom it was first offered, has been accepted by Dr. Pfannenskel of Breslau.—*Göttingen:* Dr. Jenkel has been recognised as *privat-docent* of Surgery.—*Gratz:* Dr. Rille of Innsbruck has been offered the chair of Dermatology vacated by the death of Dr. Jarisch.—*Halle:* Dr. Wullstein has been recognised as *privat-docent* of Surgery.—*Jena:* Dr. F. Lommel of Erlangen has been recognised as *privat-docent* of Dermatology.—*Naples:* Dr. D. de Berardinis has been recognised as *privat-docent* of Ophthalmology.—*Pisa:* Dr. Pasquale Sfameni has been recognised as *privat-docent* of Midwifery and Gynæcology.—*Prague (Bohemian University):* Dr. Ottokar Srdinko has been recognised as *privat docent* of Histology and Embryology, Dr. Ottokar Kose as *privat-docent* of Medicine, and Dr. Wenzel Pitha as *privat-docent* of Midwifery and Gynæcology.—*Rome:* Dr. V. Marzone has been recognised as *privat-docent* of Anatomy.—*Vienna:* Dr. Riehl, Professor in the University of Leipsic and formerly *privat-docent* in Vienna, has been appointed to succeed the late Dr. Kaposi as Professor of Dermatology. Dr. Arthur Schattenfroh has been promoted to an Extraordinary Professorship of Hygiene, Dr. Emil Fronz to an Extraordinary Professorship of Children's Diseases, Dr. Mannaburg to an Extraordinary Professorship of Medicine, and Dr. S. Freund to an Extraordinary Professorship of Nervous Diseases.

Correspondence.

"Audi alteram partem."

THE OBSTETRICIAN—PHYSICIAN OR SURGEON?

To the Editors of THE LANCET.

SIRS,—Under the above heading an annotation appeared in THE LANCET of April 5th, p. 979, and as I am the physician referred to I trust that you will, in common fairness to myself, allow this letter to appear in THE LANCET.

You make various statements which are described as "facts." On the whole the case is fairly stated, as far as it goes, but that I was "remonstrated with by the senior surgeon" is untrue. The real facts of the case are as follows and I defy the senior surgeon or anyone else to prove otherwise. The Lincoln County Hospital has for its staff two consulting surgeons (who have no beds in the hospital), two physicians, and four surgeons. Each member of the staff is an ordinary general practitioner; there is no gynæcologist appointed. The present senior physician and my predecessor were appointed to the staff many years ago when gynæcology was little known as an art and abdominal section was considered an almost unwarrantable proceeding. Both these physicians took under their care from time to time gynæcological cases and advised as to treatment which was often followed out by the resident medical officer. I do not believe that they ever performed even a minor operation, such as curettage, in the hospital, but the patients were theirs and they therefore were responsible for the treatment. Immediately after my appointment two years ago I undertook gynæcological work and have treated my cases, no matter what the nature of the disease, in my own way. In those two years I have done as much gynæcological work as any other member of the staff and not until a few weeks ago has a single word of disapproval been addressed to me. I do not think that your statement that "sundry gynæcological cases having been admitted under his care" fully described the position.

Curiously enough, not until quite recently did I treat a case which in my opinion required a major operation and then five cases were admitted almost simultaneously. Three required abdominal section and two vaginal hysterectomy. The usual written notice was delivered to each member of the staff the day prior to that fixed by me for an abdominal section and no objections were raised—although ample time was given—until the patient was on the table in the operating-room and the anæsthetic was about to be administered. At this most inopportune moment two of the surgeons entered and protested against my operating and stated that they would appeal to the weekly board. No right-minded man would surely expect me to put off this operation, but as the surgeons had now raised objections, and *for the first time since my appointment*, I postponed two operations which I had decided to do two days afterwards in deference to their objection. A memorial, signed by all the members of the staff excepting the senior surgeon, who was absent on holiday, and myself, was presented to the weekly board—who are practically the board of managers—asking for an injunction to prohibit me from doing any gynæcological work. The members of the staff are all members of this board of management and four surgeons and two physicians were present at the meeting. Without any dissenting motion the board decided that physicians could treat gynæcological cases by operation or otherwise and there evidently the matter ended.

At my future operations—one a hysterectomy and the other an abdominal section—the three acting surgeons kindly assisted me and in every way aided me by their presence and help and by their so doing surely acknowledged their willingness to accept the position as laid down by the board of managers. On the return of the absent surgeon he addressed a letter to the managers asking for an explanation of their decision and the reply he received was even stronger than the wording of the original agreement and pointed out to him very clearly that I could perform any gynæcological operation. Not content with this decision of the board, whose verdict and opinion the surgeons had sought, the senior surgeon called a meeting of the staff, which all the members except myself attended, and passed a remarkable resolution to the effect that they would not assist me at any operation or take any responsibility for such work.

Now let me sum up the facts. The weekly board includes the staff. The staff—excepting myself—appeal to this board for a decision. They get such a decision and because they do not approve of the verdict they decide to boycott me—because, I presume, I act according to the rules laid down. There is no mention of any appeal to a quarterly meeting of the governors in the minutes of the meeting alluded to. This conduct seems to me to be somewhat illogical. After the decision the surgeons who were present assisted me and only after the arrival home of the senior surgeon do they change their attitude and frame this remarkable minute and decide upon an equally remarkable course.

I have been compelled to state the case fully and for the length of this letter I must apologise. I have no wish to enter into any "newspaper controversy." I decline to do so. I agree with you that no hard-and-fast rule can be drawn between the gynæcological physician and surgeon. In nearly every large hospital in London the gynæcologist is a physician and does his own operative work.

I have never objected to the surgeons of our hospital treating these cases as they think fit. I desire to live and let live and to do this successfully the less we interfere with our neighbours the more likely are we to attain our object.

I am, Sirs, yours faithfully,

J. STITT THOMSON, M.D. St. And., F.R.C.P., F.R.C.S. Edin.,
Physician to Lincoln County Hospital, &c.

April 9th, 1902.

P.S.—Since the above was written a meeting of the quarterly board has been held (at which all the members of the staff were present) and by a majority the decision of the weekly board was upheld. J. S. T.

THE MOST CONVENIENT SITE FOR RE-VACCINATION IN THE MEDICAL MAN.

To the Editors of THE LANCET.

SIRS,—I lately revaccinated myself. Not having been revaccinated for 25 years it naturally "took" in a very vigorous manner. On the evening of the third day my temperature rose to 101° F. and the two subsequent days to a few points over 100°. There were three large pocks which were surrounded by a wide area of inflammation. This case, therefore, seems to me to be a particularly fitting one for testing the practical value of the position I chose for revaccination, as indicative of the best available spot on the body for revaccination in the case of the general medical practitioner. The site I selected was the space over the lower part of the sternum, between the breasts, the centre of the area being a point on the horizontal nipple-line, midway between the two nipples. The reasons why I chose this position were as follows.

Firstly, it was a most convenient place for self-revaccination. This point, of course, particularly applies to country practitioners and to such of these especially who are either "unopposed" or "uncomfortably opposed," or in any other way unable to get a professional brother to perform the little operation. I myself found it fairly easy to do it in this position without the help of a looking-glass, but to such as are somewhat short-necked or unsupple it can be readily done with the kindly aid of a mirror.

Secondly, I was afraid if my revaccination were going "to take," in what we euphemistically tell our patients, "in a splendid manner," I might be temporarily partially disabled from doing my work. As a country practitioner is essentially a "chirurgeon" in its full etymological significance this point was an important one. He has no limbs to spare even for partial disablement and a sacrifice of any one of these may entail an inability to perform a highly-skilled and urgently called for professional piece of work.

Thirdly, it is one of the most sheltered spots on the body. Lying as it does between the slightly protruding male breasts it is afforded protection from bumps and jars and, unlike the usual position on the outer surface of the upper part of the arm, it is not exposed to knocks sustained by self-forgetfulness or to the jostling citizen who cannot be expected to know that the man he has just elbowed his way against has a very tender spot that he treats with much sanctity.

Fourthly, I thought there would be much less liability to get axillary glandular pain and swelling. When the site

chosen is between the breasts the area of absorption of inflammatory products has its drainage area doubled. Both sets of axillary glands now receive the irritating products of inflammation instead of its being concentrated on the one axilla, as it is when the vaccination is performed in the usual place. There seemed to me, therefore, much less likelihood of glandular swelling.

Summing up, then, I may say that all my surmises in my own case proved correct. Although the case was a severe one, both locally and constitutionally, I had the perfectly free use of my arms all the time and not the slightest inconvenience in any way regarding this most important point. I had no axillary glandular pain or swelling, which I should undoubtedly have had had I been revaccinated in the usual place. I had not a single bump or jar, which few people, I think, can say who have been revaccinated with any great effect on the outer surface of the arm.

Two more points may be incidentally mentioned. The position chosen is above the place one is naturally inclined to rest against the writing-desk when dealing with professional correspondence, and, lastly, one may turn over in one's sleep from one side to the other without any vague feelings of misgiving that one will have to pay dearly for one's hoped-for increased comfort.

I am, Sirs, yours faithfully,

T. WILSON PARRY, M.A., M.B. Cantab., &c.

Youlgreave, April 12th, 1902.

THE PLUMBERS' REGISTRATION BILL.

To the Editors of THE LANCET.

SIRS,—The valuable special article in THE LANCET of March 29th last, page 901, as to the passing through the House of Lords of the Plumbers' Registration Bill and the probable opposition it may receive from those who think that if the plumber is rendered responsible to his fellow man for the reliability of his work it will be impossible for the oppositionists to undertake plumbers' work in the future puts the whole facts very clearly. I sincerely trust that it may be read and digested by every Member of the House of Commons, and should be glad if it were possible that every Member could be likewise informed of the fact that until the plumber is made *responsible by registration it is hopeless to expect that reliable sanitary work can ever be thoroughly* carried out, notwithstanding by-laws, rules, regulations, patents, fads and fancies, past, present, and future. In connexion with registration the present system of training plumbers must be improved. At present it is most unsatisfactory as a whole, the so-called technical teaching being very hollow in its afterwards practical results, and the course so persistently followed by the Worshipful Company of Plumbers should be supported and followed. The Bill has the hearty support of all good master and operative plumbers who are anxious to be placed in a true and reliable position and that position to be known, their motto being that of the Worshipful Company of their craft. I am, Sirs, yours faithfully,

Ebury-street, S.W., April 7th, 1902. D. T. BOSTEL, Sen.

A CASE OF NUTMEG POISONING.

To the Editors of THE LANCET.

SIRS,—Mr. Robert A. Pitter reports an interesting case of poisoning by nutmeg in THE LANCET of April 12th, p. 1035, and asks for information as to other cases. He will find abstract reports of several cases in "Forensic Medicine and Toxicology," by Dr. J. Dixon Mann, published by Messrs. Charles Griffin and Co. Limited, price 21s.

I am, Sirs, yours faithfully,

ANTONY ROCHE, M.R.C.P. Irel.,
Professor of Medical Jurisprudence, Catholic University.

Dublin, April 12th, 1902.

THE NOTIFICATION OF PHTHISIS.—The Knutsford, Middlewich, Winsford, and Biddulph Urban and the Bucklow Rural Districts have practically adopted the voluntary notification of phthisis at the usual fee per case. But the results are not promising. In the whole combined district but six cases have been notified and the majority of these were near to death at the time when the information was received. Certainly, as Mr. T. W. H. Garstang, the medical officer of health of the districts, observes, notification has not been received favourably in this locality.

THE MEDICAL CONGRESS OF AUSTRALASIA.

(FROM OUR OWN CORRESPONDENT IN AUSTRALIA.)

THE sixth session of the Intercolonial Medical Congress of Australasia was held at Hobart from Feb. 17th to 22nd. The first business was to elect a President owing to the sad death of Mr. R. S. Bright who had been appointed to that position at the last session in Brisbane. The Executive Committee had selected the Hon. G. H. Butler, M.L.C., for the honour, and after the report of the committee had been read the selection of Mr. BUTLER was confirmed by the Congress and he took the presidential chair. A vote of condolence with Mrs. Bright was unanimously passed in silence, all the members upstanding.

In the evening the Congress was formally opened by His Excellency Sir H. HAVELOCK, Governor of Tasmania, who also offered a hearty welcome to Tasmania to the visitors from other States, as did the Premier of Tasmania and the Mayor of Hobart. The PRESIDENT, owing to the shortness of time at his disposal, omitted the usual lengthy address but shortly welcomed the members and then referred in feeling terms to the deaths of Mr. Bright, Sir James Agnew, M.D. (a vice-patron), Mr. J. G. Johnson (one of the sectional secretaries), Dr. E. W. Way of Adelaide (a vice-president), and the Australian members of the Army Medical Corps who had died in South Africa. Mention was made of the work of the Congress, especially the discussion on Cancer, which it was hoped would arouse general interest on the subject and give a basis for further investigation, but the President cautioned members not to be hasty in arriving at any definite conclusions. Other subjects on which it was hoped that some expression of opinion might be given were the Responsibilities of the States Governments to provide Sanatoriums for the Open-air Treatment of Consumption; a Uniform System of Compulsory Vaccination; Quarantine Regulations; and the Training of Medical Students and Practitioners in Medical Ethics. It was advised that an Ethical Section should be formed in the Congress, as suggested by the Western Australian Branch of the British Medical Association. The Congress would also have to consider the advisability of changing its name and of appointing a permanent executive committee with representatives in each State. With regard to these suggestions, on the final day of meeting it was decided that the name should be changed to "The Australasian Medical Congress," but no alteration was made in the constitution. The Congress also adopted the following motions which were brought up by the Public Health Section:—

That vaccination should be uniformly enforced in all the States with the view to an early alteration of the existing quarantine arrangements and that the Federal and State Parliaments be requested to institute the necessary legislation to give effect to this resolution.

That in the opinion of this section, in consequence of the prevalence of water-borne diseases in campaigns, instruction in hygiene, including the sterilisation of drinking-water, should form part of the field training of the soldiers; as far as practicable the drinking-water supplied to the soldiers should be sterilised before issue.

That in the opinion of this Congress steps should be taken by the States of the Commonwealth and New Zealand to unify the Public Health Acts throughout Australasia.

That the term "pestis minor" should not be applied to non-plague cases.

A motion regarding sanatoriums for tuberculosis was proposed but was not carried, difference of opinion existing as to what should be done, especially as to whether sanatoriums should be established and controlled by Government.

It is impossible to give a detailed account of all the work done in the various sections. In Medicine the President of the section, Dr. JAMES JAMIESON (Melbourne), gave a very interesting and thoughtful address, chiefly on the significance of the term "cure" in medicine. He traced the history of medicine to a considerable extent from the days of superstitious belief in the infallibility of drugs through the period of scepticism, to the modern and scientific methods of guiding the natural process and influencing and controlling it, as by producing immunity and by serum- and organo-therapy. He observed that nothing was more dangerous and more unscientific than to use powerful drugs for the relief of symptoms: "causal conditions must be discovered and the causes removed or there could be no cure." This was illustrated by the treatment of pyrexia which might be part of nature's curative effort. After a somewhat grimly humorous tilt at surgery and its advances

and its smaller "cures" by removal of organs and structures which were necessary to the well-being of the patient, he concluded by saying that practitioners entered on the new century with the hope and expectation of triumphs greater than those of the past and by asserting that they could now effect genuine cures by removing causes of disease, killing or expelling parasites, putting an end to sources of irritation, and by counteracting and getting rid of poisons which had entered the body or had been produced within it.—Dr. W. C. WILKINSON (Sydney) read a long paper advocating the Use of Tuberculin as a Remedy for Pulmonary Tuberculosis.—The members of the section did not agree with his views and said that their experience of the remedy was unfavourable.—Mr. W. T. HAYWARD (Adelaide) read papers on Empyema and on Enlarged Bronchial Glands in Children.—Dr. JARVIE HOOD (Sydney) discussed the recent epidemic of Cerebro-Spinal Meningitis.—Dr. SYDNEY JONES, sen. (Sydney), read a paper on the Serum Diagnosis of Disease.—Dr. G. H. HOGG (Launceston) gave an account of the Aboriginal Medicine of Tasmania. Bleeding was stopped by clay and leaves, and incisions and scarifications were in much favour to let out the pain or disease. Massage was employed and the application of cold by compresses was used to relieve headache and other pains. The usual treatment for all skin diseases was for the patient to wallow in wood ashes. Rheumatism was common and was treated by incision and rubbing in mutton-bird oil. The use of charms made of the bones of the dead was common, both as preventives and as cures. Before European colonisation the aborigines appeared to have been very healthy but afterwards lung diseases, especially phthisis, and syphilis became common and were the chief cause of their extermination.—An important paper was read by Dr. F. GOLDSMITH (Queensland) on the Necessity for Education in Tropical Medicine in Australia. He pointed out that there were large centres of population, such as Rockhampton, Townsville, Cooktown, Cairns, and Charters Towers, within the tropical zone where such diseases as malaria, dysentery, ankylostomiasis, beri-beri, filariasis, leprosy, dengue, plague, &c., existed in either endemic or epidemic form. The various States were in daily communication with India, China, and the Pacific Islands, from which tropical diseases were introduced, and the outbreak of plague was still in evidence. He strongly advocated the providing of a school of tropical medicine in Australia.—As a result of this paper a committee was appointed which reported as follows:—

The committee consider it desirable that a school of tropical medicine and research should be established for the scientific and systematic investigation of tropical diseases in Australia, and to this end they recommend the following: 1. That Brisbane would be the most suitable place to carry out such investigations. 2. That the proposed school should be established on lines similar to those of the school for tropical medicine in London. 3. That the Right Hon. the Premier of the Commonwealth and the Premiers of the various States should be officially approached by the executive of this Congress for grants to enable such an institution to proceed with its work, and that the Right Hon. the Secretary of State for the Colonies and Dr. Patrick Manson (the head of the School of Tropical Medicine in London) be communicated with on the subject. 4. The section recommends the Congress to appoint Dr. Goldsmith as its representative in England.

In the Surgical Section Mr. L. E. BARNETT (Dunedin), the President, delivered an admirable address, practical and yet often eloquent in diction. He took the opportunity afforded by the presidential Address in Medicine to point out that advances into regions previously held sacred to the physician had been the characteristic of latter-day surgery, and where medicine failed surgery had come to the rescue. To its credit stood hundreds of operative procedures established by the experiences of physicians as well as of surgeons as the best and safest cures for the diseased conditions concerned. Mr. Barnett then mentioned many of these in detail. Referring to anæsthesia he emphatically declared that there were far too many deaths under chloroform which was so frequently the selected anæsthetic in Australasia. Chloroform administered by an expert anæsthetist was probably safe enough and was simpler and pleasanter to administer than ether, but expert anæsthetists were few and far between. Now, to the average man he made bold to say: "Learn to give ether, and give it freely, and give it often. Follow the lead of America and reserve chloroform for the special cases." Then there would not be so many inquests and patients would not have such a dread of going under an anæsthetic. Appreciative reference was made to the debt which modern surgery owed to bacteriology and he strongly advocated aseptic as opposed to antiseptic methods. "It did harm rather than good to swab and douche healthy living tissues with antiseptics." In regard to some details of surgical technique he thought the extreme value of saline enemata and saline transfusion in averting and combating shock and the use of the Trendelenburg position were not sufficiently appreciated by general surgeons, though much used by gynæcologists. Sir Felix Semon's strictures on over-operating by specialists were mentioned and he (Mr. Barnett) was afraid that the same might be said of general surgeons, and it must be admitted that there were too many who degraded the science and art of surgery into a highly lucrative craft. Not only had modern surgery introduced a multiplicity of operations but also of operators. The success rendered possible by asepsis tempted too many men to become operators who had not received a sufficient training. All general practitioners ought to have sufficient knowledge of the general principles of surgery and aseptic technique to perform imperative surgery when the services of a skilled surgeon could not be immediately obtained. To save life the general practitioner should be prepared to operate for strangulated hernia, appendical abscess, &c., but not in the same way to undertake lightly the operation of radical cure or appendicectomy when the patient could be sent to a skilled operator. He concluded with a fine peroration on the work of the Australian surgeons in the South African campaign.—In the sectional work papers on the Treatment of Prostatic Enlargement were read by Mr. G. A. SYME (Melbourne) and Dr. H. V. C. HINDER (Sydney), both advocating total prostatectomy in the early stages of the disease for most cases, a procedure advised by the former in 1897. Operation should be performed as soon as the use of a catheter became necessary.—Dr. W. MOORE (Melbourne) discussed the Treatment of the Appendix in cases of Abscess and advised its removal, quoting cases in illustration.—Dr. W. KENT HUGHES (Melbourne) read a paper on the Treatment of Deformities following Infantile Paralysis, advocating free tenotomies and transplantation of tendons.—One of the most original and ingenious papers contributed to the Congress was that by Mr. R. HAMILTON RUSSELL (Melbourne) on the Congenital Factor in Hernia. Mr. Russell had formerly maintained that all cases of inguinal hernia were congenital and due to the existence of a preformed sac. He now maintained that all forms of hernia—femoral, obturator, &c.—were also due to a congenital condition, and he elaborated a most ingenious hypothesis to account for the formation of the sac by assuming a protrusion of the inner layer of the mesoderm into the budding lower limb at the fourth week of fœtal development, and also expressed the belief that it was the existence of this preformed sac and its relation to the developing blood-vessels of the lower limb, especially the branches of the common femoral artery, that determined the course taken by a femoral hernia.—Dr. W. A. WOOD (Melbourne) discussed the Treatment of Congenital Dislocation of the Hip and narrated five cases treated by the Lorenz method, three with marked success.—Dr. J. B. NASH (Sydney) read a paper entitled "Some Observations in Relation to Nephrectomy," and Dr. ALAN MACKAY (Melbourne) contributed a practical paper on the Use of the Double Thomas's Splint in Hip Disease.

In the section of Midwifery and Gynæcology Dr. RALPH WORRALL of Sydney, the President, took as the subject of his address the Advances on the Subject since the First Session of the Congress. In midwifery the greatest advances had been in the adoption of Cæsarean section instead of destruction of the child, the re-introduction of symphysiotomy, the aseptic conduct of labour, especially the avoidance of vaginal examinations and douches, and the management of the third stage by waiting for the placenta to be naturally expelled. One of the most marked advances was in the early recognition and treatment of extra-uterine gestation. In gynæcology the treatment of uterine deviations had been completely changed—the pessary had become obsolete and operative measures, especially the Alexander-Adams operation, the rule. In pelvic surgery, and especially the treatment of fibro-myoma, the greatest advance was seen in the methods of restraining hæmorrhage, for which the profession in Australasia were greatly indebted to Professor A. Watson of Adelaide who anticipated the methods of Howard Kelly and whose procedure was even better than Kelly's.—A feature of the addresses in medicine, surgery, and gynæcology, delivered by leaders of their professions in three different States, was a marked tendency to object to the encroachment of others in what they regarded as their own sphere of work. Dr. Jamieson gibed at the

surgeons, Mr. Barnett returned the compliment and further objected to general practitioners doing surgery, and finally Dr. Worrall lodged a very strong protest against general surgeons doing gynæcology.—In the sectional work Professor WATSON (Adelaide) read a paper on Some Points in Connexion with the Gynæcological Surgery of the Round and Broad Ligaments. It was chiefly anatomical, with reference to the blood-supply of the different pelvic organs and the best means of isolating and separately controlling the various vessels—in fact, very similar to his paper on the subject at the previous congress.—Dr. G. R. ADAM (Melbourne) opened a discussion on the Treatment of Chronic Pelvic Suppuration.—Dr. H. O. COWEN (Eaglehawk, Victoria) read a paper on an Analysis of 700 Consecutive Confinements in Private Practice, a rejoinder to a paper which had been read by Dr. Purdy at the Brisbane Congress and a plea for "standard details" on midwifery, and leaving "the shifting sands of individual experiment for the sure standing ground of collective experience." The minimum of interference with nature's processes, in the way of examination, douching, forceps, or expression of placenta, was the main contention of the paper, which, with a paper by Dr. ALAN MACKAY on Symphysiotomy, was specially discussed.

Public attention at medical congresses chiefly concentrates itself on the section of Public Health, the work in which is most fully reported in the public press. Dr. T. CHERRY (Melbourne), the President, gave a very comprehensive and up-to-date address on the Etiology of Typhoid Fever. He detailed the results of observations on the typhoid bacillus and the various forms of colon bacilli and their separate and conjoined effects and summarised the most recent literature on the methods of contagion and spread of the disease, especially drawing attention to the probable share of flies and dust in this connexion. He concluded an admirable address by stating that many mild cases of fever were often classed as slight attacks of typhoid fever and might serve to distribute contagion. Typhoid fever itself might be a composite disease or a series of diseases caused by a closely allied organism. Typhoid fever at once disappeared from the community with the introduction of a proper system of the disposal of excrement and household refuse in towns. The disease was spread chiefly by the contamination of water, milk, and articles of food. In hot countries at least flies and dust had a considerable share in bringing about this contamination. The length of time during which the bacilli could exist outside the body was unknown. There was evidence to show that contagion hung about old cesspits and contaminated soil for several years.—In the work of the section Mr. T. M. KENDALL (Sydney) read a paper on Sewage Disposal, detailing the results at Sydney where various systems were employed: discharge into the ocean, land filtration, lime precipitation, the Scott-Moncrieff system, and the septic tank method. After being screened in this manner the sewage fell into a septic tank, constructed on the Dortmund principle, and thence it was sent laterally into a Scott-Moncrieff cultivation tank, through which it passed by upward filtrations, to be distributed over a percolating filter, composed of coke or coal. The distribution was so arranged that a definite quantity of sewage was applied to every square yard of the filter in an intermittent manner and the filter itself was composed of coke stacked without any retaining wall.—Dr. JAMES JAMIESON read a paper on a Milk Epidemic of Typhoid Fever, illustrating the Duration of Infectivity. He showed that typhoid germs might lodge in the body of a patient for a long period after recovery and that the disease was more liable to be spread from contaminated urine than from fæcal discharges, even after apparent convalescence. He detailed a series of typhoid fever cases occurring among customers of a dairy in Melbourne. During the time that the proprietor was absent suffering from fever the milk was all right, but upon his returning to work as cured the milk gave rise to a series of typhoid fever cases in instances where the customers required fresh cows' milk, not sterilised. The man, it was assumed, distributed the infection through his hands in milking the cows. The duration of the period of infectivity pointed to three months.—Dr. CHERRY gave an address on Pseudo-Tuberculosis (Caseous Lymphatic Glands) in Sheep. Probably the inoculation took place from cuts and scratches at shearing time. The disease was spreading and was important because of the relation of the micro-organisms to that of glanders. Should the horse become infected it would be exceedingly difficult to diagnose it from glanders, and unless care was taken it might be confused with the plague bacilli, which it was not unlike.—Dr. W. EAMES (Newcastle, New South Wales) read a paper on Diseases in War, pointing out that the greatest mortality was from water-borne diseases. He advocated training the soldiers in sanitary precautions and especially in the methods of sterilising drinking-water.

In the section for Diseases of the Eye, Ear, and Throat Dr. T. K. HAMILTON (Adelaide), the President, gave a short address on the Progress of these Special Departments. Specific diseases of the eye were discussed at some length, as was the treatment of middle-ear suppuration and sinus suppuration. Two evening meetings of the whole Congress were held to discuss the subject of Cancer.—Professor H. B. ALLEN (Melbourne) opened with a most elaborate paper, giving an exhaustive review of the recent literature and experiments on the nature and parasitic origin of cancer. He observed that in its predilection for people in declining years it was unlike most parasitic diseases and also in its mode of dissemination and stated his own opinion decidedly that cancer was not a parasitic affection. He also thought that the tendency for innocent tumours to become malignant was much exaggerated. As regarded the influence of race, the savage races of mankind suffered much less than did the civilised. He considered that the influence of local irritation in favouring the evolution of cancer was beyond question. Most carefully compiled statistics were given of the prevalence of cancer in Australasia. During the first five years 6·8 per cent. of the deaths so recorded were due to cancer; during the second five years, 6·9 per cent.; during the third, 9·1 per cent.; during the fourth, 10·2 per cent.; and during the fifth, 10·4 per cent. Allowance must be made, in the first place, for increase of population, and it was then found that the Australasian death-rate from cancer for every 10,000 living had risen in the last 30 years for all persons from 2·75 to 5·72; for males from 2·65 to 5·91; for females from 2·86 to 5·50; or, if they took 100 as the standard 30 years ago, to 223 for males and to 192 for females. In this short period, therefore, the recorded cancer rates per 10,000 living had somewhat more than doubled in males and somewhat less than doubled in females. The female rate, which was the higher, had become substantially the lower. In Australasia there had been a striking increase in the number of old people, of persons in the cancer period, both an absolute increase and an increase in proportion to the whole population. The old men had nearly doubled in numbers in relation to the whole community, while the old women had far more than doubled. A large part of the increase in cancer was explained in this simple way. Not only was the death-rate from cancer in persons under 25 years of age very small, but since 1880 it showed no increase. The rate for cancer in children and young people was not increasing. Professor Allen's general conclusion was as follows: "While I am not prepared absolutely to deny that there has been any increase in the prevalence of cancer I can state positively that malignant tumours in young people show no recent sign of increase; that among the external cancers which are easily recognised those of the face and lip in males appear to be less frequent than formerly, while cancer of the breast in women has also decreased; that uterine cancer has only slightly increased, the rates for women under 55 being lower than they were 30 years ago; that the apparent increase of cancer is most marked in old people and particularly in women of 75 and upwards; and I am strongly of opinion that most of this apparent increase is fictitious, being due partly to changes in the age distribution of the population and partly to more regular medical examination, better diagnosis, and more explicit registration."—Dr. J. C. VERCO (Adelaide) read a paper on the Cancer Statistics of South Australia which confirmed those of Professor Allen.—Dr. WILKINSON (Sydney) spoke on the Etiology of Cancer, upholding the parasitic view.—Mr. F. D. BIRD (Melbourne) contributed a paper on the General Results of Radical Operations, maintaining that while many cases could be said to be unpromising none could be called hopeless.—Dr. SYDNEY JAMIESON (Sydney) discussed the Influence of Injury, Irritation, and Preceding Inflammation on the Production of Cancer and held that it was considerable.—Owing to the time occupied in reading these papers none was left for general discussion.

An account of the Congress would be incomplete without reference to the hospitalities showered on the members. The President and Mrs. Butler entertained the members at a garden party and at a reception. The President also gave

a dinner to the leading officers of the Congress. The Governor of Tasmania and Lady Havelock gave a garden party and the Premier and Mrs. Lewis held a reception. The Mayor entertained the Congress with an excursion to New Norfolk and the Salmon Ponds. The Union Steamship Company provided a trip down the D'Entrecasteaux Channel, and Senator and Mrs. Macfarlane gave a garden party. It was decided to hold the next session at Adelaide and DR. E. C. Stirling was elected President.

NOTES FROM INDIA.

(FROM OUR SPECIAL CORRESPONDENT.)

The Success of the Dufferin Fund.—The Plague Epidemic.—Refusal of Commissions in the Indian Medical Service.—Increase of the Indian Army Nursing Service.—Improvements in Rangoon.

A REPORT recently issued shows that the work of the Dufferin Fund has become one of great magnitude. No less than 1,750,000 patients received relief at the hands of its female medical practitioners last year and it is of interest to record that Pardah Nashin women are being increasingly attended to. There are now 40 lady practitioners holding qualifications from the United Kingdom and 82 others who possess Indian licences. Amongst its own hospitals there were 7516 in-patients and 231,427 out-patients, the rest of the patients going to affiliated hospitals. The work of the association offers a training to nearly 500 students and a large number of women are being educated as midwives. The funds are also flourishing, for including the six and half lakhs of rupees collected by Lady Curzon the total investments of the fund amount to 31 lakhs.

The plague continues to increase in the Punjab but shows some signs of abatement elsewhere. Both in Bombay city and in Calcutta there has been a decline. In the Punjab the course of the disease is instructive. Here it first broke out in 1897 and for three years kept in the limits of two districts. There were 3500 cases in the first year, 423 in the second, and 859 in the third. In 1900–91 it began to spread and for that year 10,000 cases were reported. Since then the previous precautions have been abandoned, or, at any rate, they have not been enforced, and the disease has advanced rapidly. In the past five months 90,000 cases have been recorded and now eight districts and five native States are affected. The native press was formerly very bitter against the Government for enforcing preventive measures but now it is blaming the Government for not pressing them. The results of inoculation for plague among the Parsi community in Bombay speak well in favour of the process. During 42 months there were 1033 deaths among the uninoculated section and 51 amongst the inoculated. If the latter had suffered in the same ratio there would have been 170 deaths; so it is estimated that inoculation saves about 70 per cent. of those who might have died.

It appears that several of the plague medical officers who were offered commissions in the Indian Medical Service have for various reasons been unable to accept them. As the treatment of the medical officers sent out to India for plague duty has not been marked by excessive liberality it would be interesting to know what hindrances were placed in the way of the officers accepting these commissions.

In the programme of improvement for the army in India provision is made for an increase in the Army Nursing Service. The increase is to amount to 39 but it will be limited next year to three superintendents and 13 nursing sisters.

The movement for improving some of the worst quarters of the native parts of many Indian cities is extending and Rangoon is now brought under its influence. The Government of India has approved of the scheme concerning the Sadr Bazaar. The most insanitary portions will be entirely demolished and its inhabitants will be removed to another part of the city. The place was not only a nuisance but a serious source of danger to the public. Work of a similar kind is going on in Bombay city and in Calcutta. The danger seems to be that in some places improvements will be permitted rather than the enforcement of complete demolition and reconstruction. A mild policy in these matters will only lay up troubles for the future.

March 26th.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

A Liverpool Private Hospital and the Sale of Throat Pastilles.

IN the Chancery Court of Lancashire at St. George's Hall last week, before the Vice-Chancellor, Messrs. Evans, Sons, and Co., wholesale druggists of Liverpool, claimed to set aside an agreement with William Alfred Jones (formerly export manager in their employ) in respect to the manufacture and sale of throat pastilles. The plaintiffs (Messrs. Evans, Sons, and Co.) also claimed damages and an account of all moneys received by the defendant (William Alfred Jones) under the said agreement and prior thereto; and in particular such portion thereof as was intrusted to the defendant on behalf of the Liverpool Hospital for Diseases of the Throat, Nose, and Ear; and also payment to the plaintiffs of the amount not properly applied. The defence was a denial of the allegations made by the plaintiffs and the defendant counter-claimed for a declaration that plaintiffs were no longer entitled to manufacture and to sell the pastilles and the delivery up to him of the formula and various documents, an injunction against the plaintiffs from advertising, manufacturing, or selling the pastilles, and payment to defendant of £220 10*s.* 2*d.* due from plaintiffs to him. Mr. Maberley, in opening the case for the plaintiffs, said that the defendant was in the employ of the plaintiffs as export manager for 35 years and in 1893, while defendant was honorary secretary and treasurer of the Throat Hospital, a private institution in Oxford-street belonging to Mr. John Bark, M.R.C.S. Eng., in which patients were treated gratis, he was given some lozenges by Mr. Bark for the use of his wife who was suffering from an affection of the throat. At defendant's request Mr. Bark wrote out a formula for less costly lozenges which defendant took to the plaintiffs. He suggested that they should manufacture and sell them and that apart from the business profit a substantial portion of the proceeds should be handed over to the hospital. The plaintiffs agreed to the proposal and a royalty of 6*d.* per pound weight was fixed verbally as the amount to be devoted to the hospital. The first payment on account of the royalty was made in the year 1896 and other payments followed up to December, 1901, a list of which counsel handed in. The Vice-Chancellor said that the total was £2393 18*s.* 2*d.* In April, 1900, the defendant produced a letter from Mr. Bark in which that gentleman wrote: "I have no claim or interest in the prescription you got for me some years ago for the throat pastilles"; and following that the defendant, who described himself as sole proprietor of the formula, offered in writing an authorisation to the plaintiffs to manufacture the pastilles for sale in all parts of the world in consideration of their paying him a royalty of 6*d.* per lb. weight. On May 9th the plaintiffs wrote confirming the arrangement, adding that they understood that the royalty (as advertised by them) was largely applied by defendant for the benefit of the hospital. Afterwards the plaintiffs found that while the sales were going up by leaps and bounds the defendant was not devoting any part of the royalty, which now amounted to over £800 a year, to the hospital; and they now contended that defendant, who had ceased his connexion with the hospital, was acting merely as their agent and that they were entitled to demand that the royalty should be refunded to them in order to be handed over to the hospital. Mr. John J. Evans, senior active partner of the plaintiffs' firm, deposed that the agreement with the plaintiffs in 1893 was that the royalty of 6*d.* per pound of the pastilles should go to the hospital, of which defendant said that he was the secretary. Nothing was said about defendant retaining any part of the royalty. At Mr. Bark's request that gentleman's name was withdrawn from use. Witness, in the course of his evidence, said that he remarked to Mr. Jones that the hospital must be getting very rich owing to the large amount it was receiving. Mr. Edward Evans, jun., another member of plaintiffs' firm, deposed that the statement in the advertisements that part of the proceeds went to the hospital assisted the sale. In cross-examination witness said that it was his absolute conviction that defendant was applying the money to the hospital. He had understood that the hospital was a public institution and it was a disclosure to him to find that it was a private concern. Mr. Bark deposed that the Liverpool Throat Hospital was

a private hospital in that no subscriptions were asked for from the public, but it was public inasmuch as nobody was refused whether he could pay or not. There was no committee and witness managed it. In 1892 or 1893 he became acquainted with defendant whose wife and children witness attended. He remembered giving the formula of the pastilles to Mr. Jones, but nothing was said about any benefit to the hospital or anything of that sort. About 1896 witness appointed Mr. Jones as secretary to the hospital and defendant told him on several occasions that Messrs. Evans were going to give a donation to the hospital. Nothing was said about a royalty and Mr. Jones never told him he was receiving anything for the hospital. Witness removed defendant from the office of secretary in September, 1900, as he was dissatisfied with the accounts and other things, and defendant assigned to him his interest in the lease of the premises. The defendant claimed that the royalty was his absolutely. He did not recognise the right of Mr. Bark to dismiss him from the honorary treasurership. He claimed that he was still the treasurer and that therefore there was no concealment from the plaintiffs of his dismissal. Judgment was given for the plaintiffs. There would be an account taken of the royalty due from the defendant and that money, together with the royalty in the plaintiffs' hands, would be paid into court where it would remain until a scheme, of which the Attorney-General would have notice, had been settled for placing the hospital on a permanent basis.

April 15th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

Edinburgh Public Health: Examination of Pathological Products.

IN THE LANCET of previous weeks reference has been made to the position of this question. It may be recalled that the examination of certain pathological products had been carried out at the laboratory of the Royal College of Physicians of Edinburgh for the public health authorities. The arrangement covered the examination of swabs from the throat in suspected diphtheria, sputum from cases of suspected tuberculosis, blood from suspected cases of enteric fever, and urine and milk for tubercle bacilli. The remuneration was a small charge for each specimen examined, the total sum amounting to about £120 in the course of a year. When the Usher Institute of Public Medicine was nearing completion the trustees or committee, under whose guidance the institute was planned, expressed their readiness to undertake the examination of practically all kinds of suspected material brought under the notice of the public health authorities. For this purpose certain rooms in the new institute were to be set apart in accordance with the expressed desire of the donor whose name the institute bears. It was indicated also that a medical man, a trained bacteriologist, would be appointed specially for this work and that he would work under the direction of the professor of public health, who is, of course, a highly trained and expert bacteriologist and who is called upon to make expert reports on matters affecting the public health in different parts of Scotland. The sum suggested as suitable payment was larger than that earned by the laboratory of the Royal College of Physicians of Edinburgh, but the proposals covered a much wider range of investigation. When the proposals from the trustees of the Usher Institute came before the Public Health Committee of the Edinburgh Town Council it was decided that until the town council had a laboratory and a bacteriologist of its own the arrangement with the Royal College of Physicians of Edinburgh should be maintained. When this decision came up before the town council it was disapproved and upset, the council deciding in favour of transferring the work to the Usher Institute. This, as was mentioned at the time, led to much heartburning, and two meetings of the medical men of Edinburgh were called and votes were passed expressing confidence in the College laboratory and requesting that the examinations should continue to be made there. Those who were at the trouble of getting up those meetings were further at the trouble of organising an exhaustive canvass of the individual members of the profession and of getting the great majority of the local profession to sign a petition against the proposed change. A deputation also appeared before the town council with the same object in view. All this was undertaken in the expectation that the town council might reverse its decision when its own minutes came up for approval and confirmation. The last vote was taken on April 9th and the minute transferring the work to the Usher Institute was confirmed by a majority of one, but a number of members absented themselves. The majority of the profession in Edinburgh have thus failed to carry their point. They felt that the town council had acted ungraciously to the College laboratory but now that their generous sentiments have had expression they will doubtless realise the value of the gift which Sir John Usher has made to the University and the city, and as there can be no question as to the efficiency of the arrangements which the University and the trustees of the institute will make it may be hoped that certain feelings which have been aroused will be allowed to subside.

University of Edinburgh: Graduation Day.

The spring graduation ceremonial of the University of Edinburgh was held in the M'Ewan Hall on April 11th, when degrees were conferred in arts, science, and divinity. As Sir William Muir, Principal of the University, was unable to be present owing to his recent illness, the degrees were conferred by Sir William Turner, K.C.B., senior professor. Among the honorary graduates was one medical man, Sir John Batty Tuke, on whom the University conferred the degree of LL.D. A similar honour was conferred on Miss Dorothea Beale, Principal of the Ladies' College, Cheltenham. The address to the graduates was delivered by Professor MacGregor of the chair of Natural Philosophy. Professor MacGregor made appreciative reference to the late Professor Tait whom he had succeeded in the chair. In the course of his address he pointed out that the four main characteristics of Professor Tait's teaching were: 1. His full consciousness of the evils of the system which makes examination the sole test of fitness for a degree. 2. His efforts to counteract these evils by interesting his students in the practical study of his subject and exciting in them the love of investigation for its own sake. 3. His habit of throwing his laboratory students upon their own resources and encouraging them to cultivate originating power. 4. His success, notwithstanding the difficulties which the examination system and the lack of funds occasioned, in making his laboratory, by his own efforts and the enthusiasm which he was able to rouse in his students, one of the most productive laboratories in the United Kingdom. Professor MacGregor then referred to the Tait Laboratory Endowment Fund as a scheme which presented the most suitable method of commemorating the great services which Professor Tait had rendered to the University, and announced that the fund had been started by an unsolicited and unexpected subscription of £1000 from a donor who did not wish his name to be announced. He felt sure that Professor Tait's old students throughout the world would be eager to raise to his memory so appropriate a memorial.

Bequest for the Chair of Bacteriology in Edinburgh University.

By the will, dated Jan. 5th, 1891, of the late Robert Irvine, Fellow of the Chemical Society, the testator leaves certain shares in the Christmas Island Phosphate Co., Limited, as a separate trust to be invested by his trustees in their own names until the property accumulates to the value of £25,000 or £30,000, when the trustees are to pay the sum over to the Association for the Better Endowment of the University of Edinburgh, or to such authorities in connexion with the University of Edinburgh as the trustees shall deem expedient, for the purpose of founding a professorship of bacteriology in the said University and the equipment of a class-room and laboratory for the teaching of the same and for conducting original investigation in that subject. The testator suggests that in order to promote the study of bacteriology merely nominal fees should be charged for attendance at lectures and in the laboratories. The trustees under this will are Dr. German Sims Woodhead, professor of pathology in the University of Cambridge; Dr. David Patrick of Edinburgh; Mr. David Jardine, manager of G. and J. Cox, Limited, Edinburgh; Mr. Robert M'Vitie, biscuit manufacturer, Edinburgh; Mr. William Maxwell, journalist, London; and Mr. George Mure Wood, S.S.C., Edinburgh.

St. Andrews University Graduation Ceremonial.

The annual graduation ceremonial of St. Andrews University was held on April 2nd in the New Library Hall, Principal

Donaldson, Vice-chancellor of the University, presiding. Among several gentlemen who received the honorary degree of LL.D. was Sir William Turner, K.C.B., professor of anatomy in the University of Edinburgh, and President of the General Medical Council.

University of Aberdeen: Graduation Day.

Graduation day in connexion with Aberdeen University was observed on April 10th, when Lord Strathcona took farewell of the students in his capacity as Lord Rector. In the morning Lord Strathcona was entertained at breakfast by the Students' Representative Council. After the graduation ceremony the venerable Lord Rector was entertained at luncheon in the Students' Union, and in the evening, with Lady Strathcona, he attended a brilliant reception given in the Mitchell Hall by the Principal and the professors of the University. The Lord Rector's Prize in the Faculty of Medicine was awarded to Harry O. Nicholson, M.D. The following awards were also made: Fife Jamieson Memorial Gold Medal in Anatomy, Bertie R. G. Russell, Orkney; Lizars Gold Medal in Anatomy, Catherine E. Anderson, Ceylon; Keith Gold Medal in Surgery, L. D. Cruickshank, Tarves; Shepherd Gold Medal in Surgery, Alex. Callam, Aberdeen; Dr. James Anderson Gold Medal and Prize in Clinical Medicine, R. D. Keith, Turriff; Matthews Duncan Gold Medal in Obstetrics, R. D. Keith, Turriff.

Aberdeen Royal Infirmary.

Lord Mount Stephen has generously offered a capital sum sufficient to yield an annual revenue of £1000 to Aberdeen Royal Infirmary. Lately he gave £25,000 to the same institution to pay the existing debt.

Death of Alexander Macgregor, M.D. Aberd.

The death is announced, at his residence in Queen-street, Berkeley-square, London, of Dr. Alexander Macgregor who was for many years assistant to the professor of medicine in Aberdeen University as well as a prominent private practitioner.

April 15th.

IRELAND.

(FROM OUR OWN CORRESPONDENTS.)

Death of Dr. Thomas More Madden.

I MUCH regret to announce the death of Dr. More Madden, the well-known gynæcologist and obstetric physician to the Mater Misericordiæ Hospital, which occurred on Monday last at his country residence, Tinode, co. Wicklow.

The Smyth Memorial Fund.

The balance sheet of the Smyth Memorial Fund appeared in the *Irish Times* of April 15th and affords satisfactory reading, the total sum of £7629 being highly creditable to the public spirit and philanthropy of the various districts that concerned themselves in the matter. Dublin as usual heads the list with a contribution of £3600, the commercial wealth of Belfast is represented by £1700, Londonderry generously sent £1500, while from London nearly £800 have come. The Duke of Abercorn and Dr. T. Myles, President of the Royal College of Surgeons in Ireland, are the trustees of the fund and have arranged that the interest on one half of the total sum will be paid to Mrs. Smyth during her life while the interest on the remaining half will be devoted to the maintenance of her children. The deed contains powers to utilise a proportion of the capital for the advancement in life of the children.

Meath Hospital and County Dublin Infirmary.

The annual meeting of the governors of the Meath Hospital and County Dublin Infirmary took place on April 15th, when the 148th annual report of the institution was presented. In proposing that the thanks of the meeting should be accorded to the Dublin County Council and the City of Dublin Corporation for their continued support, Sir John W. Moore alluded to the great danger of a small-pox epidemic to which the citizens were recently exposed and to the necessity for those precautions which had up to the present proved so successful. He mentioned that the late Registrar-General, Dr. Grimshaw, had calculated that the epidemic of that disease in 1872 had cost the inhabitants of Dublin between £20,000 and £30,000.

Ulster Medical Society.

The sixth meeting of the session was held in the Museum, Belfast, on April 10th, the President (Professor W. Whitla) being in the chair. Dr. A. Fullerton showed a Gall-stone of Unusual Structure; Dr. J. B. Darling read notes of a case of Cholecyst-duodenostomy; Dr. W. Donovan read notes of a case of Hodgkin's Disease; Mr. Robert Campbell described a case of Colo-colostomy for Stricture of the Colon; and Dr. Darling showed a case of Skin Disease in a man, aged 80 years. In the discussion which followed these communications Dr. W. Calwell, Professor J. W. Byers, Dr. W. B. McQuitty, Mr. W. G. Mackenzie, Dr. H. L. McKisack, and the President took part.

The Education Question.

A committee of the Belfast Chamber of Commerce has been appointed to consider the desirability of having classes of the same standing as those of the Royal College of Science of Dublin established in connexion with Queen's College, Belfast. The best way to accomplish this would be to ask for a part of the annual State endowment, £30,000 per annum, which is paid to the Royal College of Science, a purely local Dublin institution, to be diverted to Belfast for scientific education.

The Royal Horticultural Society.

The Royal Horticultural Society has just presented the Veitch memorial medal to Dr. Augustine Henry, F.L.S., a native of County Derry and a former student of Queen's College, Belfast, in recognition of his great services to botany. Dr. Henry has sent home from China, to Kew and other great botanical institutions on the continent, in America, and in India, an enormous collection of plants. He has, according to Sir Thiselton Dyer, who proposed his health at a dinner given by the London Horticultural Society, given the world the first information concerning the flora of the interior of China, perhaps the richest and most beautiful now known.

The Ulster Medical Institute.

On Saturday afternoon last, in the presence of a large number of members of the medical profession, Dr. P. Redfern, late emeritus professor of anatomy and physiology in Queen's College, laid the foundation-stone of the new Ulster Medical Institute which Professor W. Whitla, the present president of the Ulster Medical Society, has in the most generous way signified his intention of erecting and equipping. The building, which will be in College-square North, Belfast, will be fitted up in the most complete manner with all necessary requisites. It will be entered by an outer porch and an inner porch leading to a large recreation hall which is divided from the library by a stone arcade filled in with glazed folding doors. These rooms cover the front portion of the ground floor, at the back of which are the staircase and private consulting-rooms with the usual accessories. The first floor is entirely occupied by the great lecture hall, above which on the top floor are a billiard-room, the librarian's quarters, a kitchen, drawing-rooms, &c. The front of the building, facing College-square North, is designed in perpendicular gothic work and presents a frontage of 45 feet to the street by about 46 feet high to the top of the parapet, with a gable in the centre, and contains many architectural features boldly and effectively treated. Every arrangement has been adopted to make the institution as perfect as possible in all its internal details. Frequent reference was made by the various speakers to the very great munificence and generosity of Professor Whitla, who by his gift of this institute, which will cost between £5000 and £6000, has done so much to provide a long-wished-for building which will be the exclusive property of the Ulster Medical Society in Belfast and the North of Ireland.

April 15th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Statistics of 100 Cases of Abortion.

AT the meeting of the Obstetrical Society which was held on March 20th Dr. Blondel read a paper embodying the results of 100 cases of abortion which had occurred in his private practice during a period of 12 years. Of all these cases not one had proved fatal, a fact which Dr. Blondel explained by

saying that in private practice the medical attendant is called in by his patient at a much earlier date than that at which a hospital patient applies to the hospital. Some of the cases, however, were very grave and showed signs of a general infection with commencing peritonitis. The number of grave cases was 30 in all; in six of these there was profuse hæmorrhage, in 19 the uterine adnexa were affected by inflammation, in five there was diffuse suppuration which was relieved in four cases by an opening being made through the vagina and in one case by spontaneous evacuation into the rectum. In three cases chronic salpingo-ovaritis occurred and two of these were treated without operation while one was treated by an abdominal salpingectomy. The treatment consisted in a thorough curetting first with the finger and afterwards with a curette; in swabbing out the uterus with glycerine of creasote of a strength of one in three; and in injections of tincture of iodine and in a gauze drain, the gauze being dipped in glycerine of ichthyol of a strength of one in 10. This drain was renewed every two days and when it was changed the uterus was well flushed out by means of Dr. Blondel's sound, a solution of corrosive sublimate being employed. No untoward results were noted. From the clinical point of view these 100 cases of abortion were divided into eight at the third month and 92 at a later date. At the fourth month there were 59, at the fifth month 28, and at the sixth month two. The greatest number occurred between the thirteenth week and the seventeenth week. On eight occasions when Dr. Blondel arrived he found abortion threatening or just begun, on 80 occasions the fœtus was already expelled, on 60 occasions the placenta was expelled as well, and on 20 occasions it was altogether, or almost completely, still within the uterus. As regards the etiology among the 100 cases, eight were obviously due to syphilis and five were probably so, one was due to a carriage accident, one to malaria, and one to tuberculosis, 52 were confessedly purposely procured, and 26 had probably been so as septic infection was present. One case was due to an error in diagnosis. The 52 cases of purposely procured abortion were divided up as follows according to the statements of the patients which, however, it must he remembered, are by no means trustworthy. On 22 occasions the operator was a midwife, on two occasions a medical student, on one occasion a medical man, on one occasion a pharmacist or a pupil in pharmacy, on six occasions a "lady friend," and on one occasion the husband of the patient. 19 of the patients said that they had operated on themselves in five instances by taking medicine (?) and in 14 instances by manipulation, nine times by injections of soap, three times by violent exercises, once with a knitting needle, and once with a bone knitting pin. As regarded the midwives, the patients made the following statements. In three instances the name and address of the midwife had been obtained from an advertisement in a newspaper. Two midwives continued to visit the patient unknown to the medical attendant in the intervals between his visits. On 15 occasions the midwife used a steel sound and on 10 occasions a gum elastic catheter and an injection. This last method was extremely painful and on two occasions brought on an attack of syncope. In no case, even when there was no doubt that instrumental interference had been employed, did Dr. Blondel detect any wound or abrasion of the cervix enough to swear to as evidence of criminal procedure. Abortion came on generally within eight days after the operation. Two patients made two visits to two different midwives, the first having done nothing but swindle the patient. Dr. Blondel mentioned one case that he knew of in which a woman whose menses had not appeared paid a large sum of money to a woman to procure abortion for her. The woman went through various complicated procedures but the patient was not pregnant at all. Dr. Blondel concluded by saying that in every case where he suspected that criminal intervention had taken place he was accustomed to disinfect the uterus thoroughly, even though no sign of sepsis was present. An unnecessary cleansing, if properly performed, did no harm even if it did no good, but if the cleansing process were put off till late the time quickly arrived when no operative measures could ward off septicæmia.

Prophylactic Injections of Anti-diphtheritic Serum.

M. Netter, M. Bourges, and M. Bergeron have recently made some important researches into the prophylaxis of diphtheria by injections of anti-diphtheritic serum. M. Sevestre, to whom was assigned the duty of inquiring into the investigation on behalf of the Academy of Medicine, made his report at the meeting of March 18th. He agreed with the above-named three observers in being favourable to the use of the injections. He considered them to be efficacious and from the facts before him he drew the following conclusions. Preventive injections of serum have a manifest action—they immunise children exposed to the infection of diphtheria. They have up to the present never given rise to any serious consequences. At the most they produce in a certain number of cases a fleeting eruption and very rarely pains in the joints. Unfortunately, the period of immunity does not last long, only for three or four weeks at the most. In those rare cases where, despite the use of the injection, diphtheria has been contracted the attack has been very light. These injections are specially called for in families where a case of diphtheria has developed for the protection of the remainder of the family, although if the children can be kept away from the affected person and can be under the surveillance of a medical man near at hand the injections may be dispensed with in their case. Preventive injections are equally called for in circumstances where children are massed together, such as in schools or hospital wards where a case of diphtheria has occurred. Even where there is no diphtheria these injections are useful in cases of scarlet fever or measles. In the latter disease the prophylactic action of the serum seems uncertain and the injections ought to be given in increased strength and at shorter intervals than in other diseases. The injections do not do away with the necessity for other preventive measures, such as disinfection and isolation, but by their use the carrying-out of the ordinary measures is rendered easier and of more effect. The Society of Pediatrics had in 1901 passed a resolution advising the use of prophylactic injections of anti-diphtheritic serum in cases where children were massed together or were not under skilled surveillance.

Radica and Doodica.

Dr. Doyen read an interesting paper before the Academy of Medicine at the meeting of April 8th upon the case of Radica and Doodica. He pointed out that it was an error to describe a xiphopagous monster as being joined by a membrane. In the case under consideration there was no supplementary tissue and that which was improperly called the membrane of union was nothing but a false pedicle produced by the dragging upon the normal tissues, the length of the pedicle increasing with the age of the monster. The formation of such monsters is explained by the simultaneous double fertilisation of one ovule; two embryos are formed side by side which are always of the same sex. The two portions of the monster possess a certain individuality although their circulation is in common, a fact which is demonstrated by the use of methylene blue, an interchange of blood takes place very quickly. All the time that Doodica suffered from a high temperature the temperature of Radica was also raised but only slightly. It appeared also by the great degree of feebleness exhibited by Radica, after separation, although she remained well in other respects, that she received a fair amount of arterial blood from her sister. Doodica, on the other hand, appeared to become immediately more resistant, as if she had received mainly venous blood before separation. Despite the width of the uniting band there was but little blood lost during the operation. The death of Doodica was solely due to the tuberculous peritonitis from which she was suffering. Radica was now quite well but the lateral curvature with which she was affected, due to walking in the constrained position which the junction with Doodica necessitated, greatly impaired her powers of walking alone.

April 16th.

BERLIN.

(FROM OUR OWN CORRESPONDENT.)

Treatment of Osteomalacia.

AN interesting case of osteomalacia has been published by Dr. Holländer in the *Deutsche Medicinische Wochenschrift*. The patient was a woman, 36 years of age, who had for 10 years been suffering from what was supposed to be a rheumatic affection in the extremities and the chest, and finally she had become unable to walk. She said that during the last six or seven years her height had decreased by about 20 centimetres (eight inches) and on examination it was found that her lower ribs were in fact very near the

iliac spines and that her vertebral column had sunk downwards and forwards. This had the effect of causing her arms to appear lengthened, her fingers reaching nearly to her knees. She walked in a very characteristic way: she fixed her knee-joints and by turning her body alternately to the left and to the right side she moved each leg slowly forward. At last she was not able to move even her legs but standing on her heels she made movements of rotation round her longitudinal axis. The suspicion that the case was one of osteomalacia was confirmed by means of the Roentgen rays, the radiograms showing that the rays passed easily through the decalcified bones. Internal treatment and orthopædic measures proved useless and Dr. Holländer then tried removal of the ovaries, a method employed successfully in two instances by Professor Hofmeier of Würzburg and Dr. Truzzi of Milan. The result was that on the third day the patient declared that she was able to breathe more freely than before and that she felt less impeded in her movements. In a fortnight she made her first attempt to walk and a month later she no longer required to use a walking-stick. At the present time, six months after operation, she is able to walk several kilometres (a kilometre is about five-eighths of an English mile)

The First-Aid and Accident Service.

Delegates from the larger towns representing the medical profession and the Government met recently in Berlin at the offices of the Government Medical Department which is attached to the Cultus-Ministerium, the object being to discuss questions connected with the first-aid and accident service. There has not hitherto been any uniform system of working adopted in this important organisation, as the municipal authorities have done but little in the matter. In some towns the employers' associations under the law relative to workmen's insurance against accidents have organised an accident service without the coöperation and to the prejudice of the medical profession. In Berlin the medical profession, together with some rich philanthropists, have also founded a special society for this purpose, so that there are two associations for first-aid the adherents of which often take opposite sides both in newspaper correspondence and at public meetings. Similar difficulties exist in some other places and the Government therefore convened the above-mentioned meeting for the purpose of settling the principles on which the first-aid service should be conducted with due regard to the interests both of the public and of the medical profession. The meeting after a long discussion adopted the following general principles. First-aid associations shall not continue to attend injured persons after first-aid has been rendered. It shall be the duty of the local medical association to organise the first-aid service. As a rule, first-aid is to be rendered in the accident wards of the public hospitals; when special premises other than the hospitals exist for the giving of first-aid such premises must be used for that purpose exclusively and not for the subsequent treatment of patients or for other cases. First-aid shall be given not by specially appointed surgeons but by any member of the medical profession who is willing to undertake such work. A central committee to act under the general supervision of the Government was then formed and Professor von Bergman was elected chairman. The committee will control the organisation of the accident service according to the above principles.

The Sick Clubs.

The Prussian statistical office reports that there exist under the Workmen's Insurance Act 9916 sick clubs with 4,337,714 members, of whom 844,217 are females, so that 137 per 1000 of the population belong to these clubs. On an average each member has to pay 16 marks 91 pfennigs (16*s.* 8*d.*) per annum, and the average expenses for each member are 15 marks 99 pfennigs (15*s.* 7*d.*), of which 98 pfennigs are for general expenses, 6 marks 46 pfennigs for maintenance during illness, 3 marks 24 pfennigs for medical aid, 2 marks 72 pfennigs for medicine, 1 mark 78 pfennigs for hospital expenses, and 80 pfennigs for other expenses.

Treatment of Foot-and-Mouth Disease in Cattle.

Professor Guido Baccelli of Rome, the well-known physician and at the present time the Italian Minister of Agriculture, not long ago recommended intravenous injections of corrosive sublimate as a certain cure for foot-and-mouth disease in cattle. The announcement attracted much attention and aroused great expectations, for this disease not only inflicts serious losses on agriculturists but it is sometimes communicated to the human subject. Professor Löffler of Greifswald and Dr. Uhlenhuth were therefore directed by the Prussian Government to make a fresh series of experiments on the effects of the treatment and their report is now published in the *Deutsche Medicinische Wochenschrift*, but it is unfortunately not at all favourable. In their experience injections of corrosive sublimate were useless as a prophylactic. Small doses of the drug neither shortened the fever nor reduced the local symptoms; when the dose was increased the symptoms were aggravated and the animals became emaciated. It could not be determined whether or not the injections diminished the mortality, for in Germany the disease is seldom fatal, but the investigations showed that the effect of corrosive sublimate was neither prophylactic nor curative.

Treatment of Inoperable Angioma.

Dr. Honsell of the Tübingen surgical clinic, writing to the *Beiträge zur Klinischen Chirurgie*, states that subcutaneous injections of alcohol have been found beneficial in the treatment of inoperable angioma. He describes a case in which a large and progressive angioma occupied the left side of the neck, the parotid region, and the cheek. Daily injections of from one to three cubic centimetres of an alcoholic solution were made round the growth at a distance of one centimetre from it, the alcoholic strength of the solution being at first 50 per cent. and afterwards 70 per cent. and the area inclosed by the injections being gradually reduced. The injections produced infiltration and cicatrisation of the perivascular interstitial tissue, resulting in contraction and obliteration of the enlarged blood-vessels.

April 14th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Blackmailing Physicians in Toronto.

A MAN who recently tried to work a scheme on two well-known physicians of Toronto, charging them with improper conduct towards his wife, was brought for trial in the police-court. After putting up a lame defence for a few days he finally pleaded guilty to the charge. The court has sentenced him to one year and 164 days' imprisonment.

Canadian Medical Association.

The next annual meeting of the above association will be held this year in Montreal on Sept. 16th, 17th, and 18th, under the presidency of Dr. Francis J. Shepherd of that city. Professor Osler will deliver the address in medicine and Dr. John Stewart of Halifax, Nova Scotia, the address in surgery. Arrangements are already well in hand for a very successful meeting. Dr. George Elliott of Toronto is the general secretary.

Death of a Prominent Nova Scotian Physician.

By the death from appendicitis after but three days' illness of Dr. W. S. Muir of Truro, Nova Scotia, Canada has lost one of her ablest and most respected general practitioners. Dr. Muir was particularly prominent in the work of medical societies. He was the secretary of the Nova Scotia Medical Society from 1887 to the time of his death; in 1901 he was president of the Maritime Medical Association; and he has frequently been in office in the Canadian Medical Association. In fact, for years Dr. Muir did much of the executive committee work at the annual meetings of the last-named organisation. He was 49 years of age and graduated from the Halifax Medical School and Dalhousie University in 1874. He also took the L.R.C.P. & S. Edin. in 1877.

McGill University.

Two years ago the corporation of McGill University established a six-years' course for students in arts who desired to continue on in the study of medicine, certain of the primary medical studies being taken up by the arts students in the third and fourth years. Lately, the corporation has extended these privileges to students in the faculty of applied science. By this new arrangement students in that faculty may, if they so elect, obtain the degree of B.Sc. after four years and then continue on and secure the degree of M.D., C.M. at the end of the sixth year. In their third year they will attend lectures, in addition to the regular studies, in anatomy, physics, and histology; in the fourth

year in anatomy, physiology, histology, pharmacology, and medical chemistry; and the two last years will be devoted to medical studies alone. The university has lately appointed a representative in London, England, Mr. J. Stuart Horner, and it is understood that an entrance examination in the faculty of applied science will be held in the metropolis on June 6th next.

Dr. Roddick's Bill for a Dominion Medical Council

The Special Parliamentary Committee appointed by the House of Commons has reported favourably upon the passage of this measure, and if the Premier, Sir Wilfrid Laurier, does not, as intimated at the second reading of the Bill, oppose it any further, it will soon become an accomplished fact. In connexion with the refusal of the British medical authorities to recognise the diplomas and degrees held by Canadian surgeons now in South Africa, Dr. J. A. Kennedy of Nkandhla writes to a Montreal lay paper protesting against the non-acceptance of these degrees in that country. The letter is opportune and is of especial interest at the present time to Canadian university graduates, as Dr. Roddick's Bill will seek to remedy this state of affairs. It certainly seems anomalous that while Canadians are accepted for service in South Africa their surgeons cannot attend to other than Canadian soldiers.

A Six Years' Arts and Medical Course at Toronto University.

Recently the Senate of Toronto University passed a statute by the terms of which it will be possible for any student, if he so desire, to secure the degree of B.A. at the end of the fourth year and then to proceed with the study of medicine and to secure the degree of M.B. at the end of the sixth year. Anatomy and physiology with histology will be introduced into the arts course in the third and fourth years and medical studies proper will constitute the full curriculum in the fifth and six years. It is a good sign when the two leading universities thus raise the standard in medical education.

Immigrants Menacing the Health of Montreal.

In September last the United States Immigration Department at Washington commissioned a court of special inquiry for the purpose of a medical inspection of immigrants arriving at Montreal and other Canadian ports of entry who were destined for points in the United States. The chief immigration inspector has recently made the statement that fully 98 per cent. of these immigrants are the subjects of favus and trachoma and, therefore, being undesirable immigrants they have been refused admission into the neighbouring Republic. At the rate of from 40 to 50 per week they have been dumped into the city of Montreal since September last, and now Montreal is becoming alarmed and the attention of the Dominion authorities is being called to the matter and it is altogether likely that the Government will be compelled to take similar steps to those adopted by the United States Department of Immigration in order to protect the Canadian community from the introduction and spread of these two diseases, the products of dirt and filth.

April 3rd.

NEW YORK.

(FROM OUR OWN CORRESPONDENT.)

Waste of Food in the United States.

PROFESSOR W. O. ATWATER, who has gained a considerable amount of fame, not to say notoriety, in the United States on account of his views as to the effects of alcohol on the human system and who is an acknowledged authority on the question of nutrition, has recently published for the United States Department of Agriculture a bulletin on the subject. Writing on the waste of food he says: "The use of excessive quantities of food, which is a common dietary error in this country among not only the well-to-do but also those in moderate circumstances, entails a waste of food in three ways." After explaining the three ways in which food is wasted he goes on to say: "Just where and among what classes of people the waste of food is greatest it is not possible to say, but there is certainly a great deal more of it in this country than in Europe. The worst sufferers from it are doubtless the poor but the large body of people of moderate means, the intelligent and fairly well-to-do wage-earners, are guilty of errors in this regard. The common remark that 'the average American family wastes as much food as a French family would live upon' is greatly exaggerated, but statistics show that there is considerable truth in it. In dietary studies conducted in a students' club in an eastern college it was found that 10 to 14 per cent. of the nutritive materials purchased were thrown away as kitchen or table waste and yet the club members were trying to live as economically as was consistent with comfort. In private families the waste has been found to range from practically none to as high as 8 or 10 per cent., while in boarding-houses, even where economy was sought, it has reached 10, and in individual instances 20, per cent., and in some public institutions where large numbers were fed it has been as high as 25 per cent. and even higher." England has always been regarded as a country in which waste of food was excessive. There can be no doubt, however, that the Americans are greater sinners in this respect, probably on account of the greater wage-earning capacity of the workers and the ignorance of the majority of the foreign immigrants. In both countries the waste occurs principally among the lower, middle, and working classes. A pamphlet dealing with the matter and embodying the facts published by Professor Atwater should prove an educating influence with these people and might be as useful in England as in America.

The Pennsylvania Society for the Prevention of Tuberculosis.

This society has just completed its tenth year of existence and was the first of the kind to be organised in the United States—in fact, only one other society with the same object in view had been founded previously to the American "La Ligue contre la Tuberculose en France," which was initiated in Bordeaux in 1896. The Pennsylvania Society has had a useful and successful career and has been able to exert a strong influence not only in the city and State in which it had it origin, but by its example and by means of its publications it has led to the establishment of similar societies elsewhere in the United States. Perhaps the most valuable work done by the society has been the publication of a series of tracts for gratuitous distribution bearing on tuberculosis generally and especially intended to educate the community at large as to the most effective measures to be taken to avoid the contraction of consumption and to prevent its spread. 30,000 of these tracts were reprinted in 1891, in addition to the publication of a new one. The society in the spring of 1901 renewed its efforts to cause tuberculosis to be included among the diseases returnable to the Bureau of Health. The subject was brought before the Philadelphia County Medical Society and was unanimously endorsed. The Bureau of Health was convinced by the solicitor of the society that it had the power to enforce registration of tuberculosis without a special Act of Legislature, and decided to include tuberculosis in the list of returnable diseases. This action was approved by the Director of Public Safety but was disapproved by the mayor and consequently fell through. A similar fate met the efforts of the society to abate the spitting nuisance in public places.

Should a Physician be a Cultured Man?

The question as to whether a medical man needs polish and culture has on several occasions been made the subject of animated, and at times somewhat acidulated, discussion in the United States. Recently the matter has been brought up again and made the text for an article in the March number of the *Columbia Literary Monthly*, the principal undergraduate paper of the New York Columbia University. The editorial article referred to takes the stand that only students having the Bachelor of Arts degree should be permitted to enter the Columbia College of Physicians and Surgeons on the ground that such a step would exclude the uncultured and uncouth. Harvard and Johns Hopkins make the possession of a degree in arts a *sine quâ non* of proceeding to the study of medicine. The article in the *Columbia Literary Monthly* ends as follows: "Leaving aside, however, the question of fitness to do work and turning to the wider sphere of the physician's effort, it must be admitted, to state the case mildly, that culture and refinement are desirable in a doctor, and it must further be admitted that the greater part of the students at our medical school are not only uncultured but often even uncouth, thus being fundamentally unfit to become the highest type of their profession. A degree as the entrance requirement would go far to remedy this state. Unfortunately, many worthy men would thus be barred out, but

the good resulting from such an injustice would far outweigh the injustice itself and the benefit to the institution would be very great, although its number of students might be thereby diminished." It is said that the opinions so outspokenly expressed in the foregoing paragraph are shared by some of the University authorities and that they have recently considered the advisability of making the possession of the Bachelor of Arts degree an essential requirement for entrance to the University Medical School.

April 7th.

Obituary.

ALEXANDER MACGREGOR, M.D. ABERD., M.R.C.P. LOND.

WE regret to have to record the sudden death of Dr. Alexander Macgregor, which took place on April 12th at his residence, Queen-street, Berkeley-square. Dr. Macgregor was born in Invergordon 48 years ago, and was educated at a private academy and at Aberdeen University where he graduated as M.B., C.M. with highest honours in 1878. After a short period of study at Vienna and Berlin Dr. Macgregor returned to Aberdeen and started in practice, being at the same time demonstrator of anatomy to the late Sir John Struthers, then Professor of Anatomy in Aberdeen University. Later he became assistant to the Professor of Medical Jurisprudence and was also appointed to the medical staff of the Aberdeen Hospital for Sick Children and physician to the Aberdeen Dispensary. Then he was appointed assistant to the Professor of Medicine in the university and by the year 1895—the year when he decided to commence practice in London—he enjoyed one of the largest private practices in Aberdeen, his opinion being much sought in the north-east of Scotland. We have a special reason to regret Dr. Macgregor's early death, inasmuch as he was for many years our Special Correspondent in Aberdeen and on several occasions when a minute knowledge of Scottish affairs was required for the proper understanding of some educational or social problem we always found in him a wise counsellor. For Dr. Macgregor did not confine his interests to medical work but was well posted in all affairs connected with the development and student life of Aberdeen University; for example, he was one of the promoters of the Volunteer Medical Staff Corps of which he was a captain for a long period. When seven years ago he retired from his Aberdeen practice he took the Membership of the Royal College of Physicians of London and was elected physician to the North-West London Hospital for Diseases of the Chest. An able, kind, and genial man, his sudden death from angina pectoris while in the prime of life has caused a shock to a large circle of friends and patients. He is survived by a widow, with whom sympathy will be particularly felt as their child, a daughter, is only a few weeks old.

Medical News.

UNIVERSITY OF ABERDEEN.—The following degrees and diploma have been conferred:—

Honorary Degree of Doctor of Laws (LL.D.).—Sir Thomas Barlow, Bart., K.C.V.O., M.D., physician to His Majesty's Household.

Degree of Doctor of Science (D.Sc.).—James Moir, M.A., B.Sc., Aberdeen.

Degree of Bachelor of Science (B.Sc.).—Peter Fraser, Lentran, Inverness; Henry William Malcolm, Aberdeen; and William Henry Wishart, M.A., Aberdeen.

Degree of Doctor of Medicine (M.D.).—Archibald Campbell Barron, M.B., C.M., Dailly, Ayrshire; †Robert Sinclair Black, M.A., M.B., C.M., Robben Island, Cape of Good Hope; †Henry Fraser, M.B., Ch.B., Aberdeen (under the New Regulations); *Frederick Theobald Keyt, M.B., C.M., British Honduras; Alexander Gordon Milne, M.B., C.M., Rodley, near Leeds; John William Myers, M.B., C.M., Shipley; James Farquhar Philip, M.B., C.M., West Ealing, London.

* Thesis considered worthy of "Honours."

† Thesis considered worthy of "Commendation."

Degrees of Bachelor of Medicine (M.B.) and Bachelor of Surgery (Ch.B.).—*With First-class Honours:* Lewis Davie Cruickshank, Tarves, Aberdeenshire. *With Second-class Honours:* Robert Donald Keith, M.A., Kinnermit, Turriff, and Alexander Christie Reid, M.A., Elon. *Ordinary Degrees:* Louis Coetzee, Kafferskraal, Steynsburg, Cape Colony; James Bremner Elder, Keith, Banffshire; Harry Willmott Elwell, Combe St. Nicholas, Chard, Somerset; George Bruce Killoh, Ardmurdo, Inverurie; Jeannie Charlotte Macleod, Aberdeen; Archibald Mahomed, London; James Burnett Rae, Aberdeen; Alexander Robertson, Elgin; Robert Boyd Robson, Edinburgh; John Stuart Rose, Culfoichmore, Grantown-on-Spey; Thomas Stewart Slessor, M.A., Aberdeen; James Souter, M.A., Aberdeen; and Alexander Watt, Ardwell, Cabrach, Aberdeenshire.

Diploma in Public Health.—William Fraser Bisset, M.B., Ch.B. (Aberd.), Aberdeen; Frederick Theobald Keyt, M.B., C.M. (Aberd.), British Honduras; and Ernest Hunt Nash, M.B., Ch.B. (Aberd.), Stafford (with credit).

UNIVERSITY OF BIRMINGHAM.—At the recent second examination for the degree of M.B., Ch.B., the following candidates were successful:—

Fred Thomas Hollway Davies, Fred Newton Walsh, and Herbert Henry Warren.

THE *Journal of Gas Lighting, Water-supply, and Sanitary Improvement* of April 8th says: "Among the forthcoming events" announced by the Crystal Palace Company is a Lighting, Heating, and Smoke Abatement Exhibition. The date fixed for the opening is Dec. 13th."

CENTRAL LONDON SICK ASYLUM DISTRICT.—The managers of the Central Sick Asylums, Cleveland-street and Hendon, at their meeting on April 7th decided to establish a department for the x-ray treatment of lupus. With the permission of the Local Government Board 25 cases can be sent to Hendon at a certain charge.

NEW PUBLIC BATHS AT FULHAM.—On April 10th the public baths and washhouses which have been erected at Walham-green by the Fulham Borough Council at a cost of over £62,000 were declared open by Mr. John McDougall. The building contains three swimming-baths, 84 private baths, and washhouse stalls for 66 washers.

PRESENTATIONS TO MEDICAL PRACTITIONERS.—The members of the ladies' class of the Exmouth branch of the St. John Ambulance Association on April 5th presented Mr. J. Willoughby Hodgson, M.D., C.M. Aberd., M.R.C.S. Eng., with a revolving chair in appreciation of his services as honorary lecturer.—On April 8th the members of the ladies' class of the St. John Ambulance Association at St. Colomb, Cornwall, presented Mr. J. C. Mackay, M.D. St. And., L.R.C.P. & S. Edin., with a gold-mounted umbrella, engraved with a suitable inscription, and a fountain pen, as a mark of appreciation for his services as honorary instructor.—Mr. Duncan MacDonald, M.B., M.S. Glasg., late medical officer of Torosay, Mull, at a recent meeting at Salen received a purse of 102 sovereigns and an illuminated address in token of high esteem and as an expression of goodwill on the occasion of his leaving the district.

THE ROYAL INSTITUTION.—Problems of the Atmosphere formed the subject of the Friday evening discourse delivered at the Royal Institution by Professor James Dewar on April 11th. In reference to the question of atmospheric hydrogen, which was discussed at some length, he said that the atmosphere probably contained free hydrogen emitted from volcanoes or disengaged from water by the action of metals, but the proportion of it could hardly exceed 1 part in 40,000 or 50,000. Gautier, however, had found one part of hydrogen in 5000 parts of air, the true explanation of which probably was that as he used a long metallic tube for bringing air from outside into his laboratory metallic particles from this tube were carried into the chemicals used for drying the air. In his experiments Professor Dewar had used a liquefying apparatus which liquefied all the recognised atmospheric gases except helion. It was also not it capable of liquefying hydrogen and in this way it served to detect minute known quantities of hydrogen purposely added to the air under examination. The incondensable residue separated by this apparatus never exceeded 1 part in 35,000 or 40,000 parts of normal air. For the study of the constitution of the atmosphere it would be very helpful if samples of air could be taken at a height of about 20 miles, for theoretical considerations pointed to important differences in the proportions of its constituents at great elevations—namely, that there would be no carbonic acid above 18 miles, no oxygen above 37 miles, and no nitrogen above 62 miles. With regard to the inter-planetary space, one school held that it had no temperature (i.e., that it was at − 273°C.) and consequently contained no gas, while

another school held that it had a temperature of − 140°C. In conclusion the experiment of the distillation of ice at a very low temperature was shown.

BOLINGBROKE HOSPITAL.—The report of this institution for the year 1901 states that the amount of the annual subscriptions is smaller than that received in 1900 and, although the donations are larger, increased subscriptions are greatly needed. Through the opening of the new out-patient department, which is now fully equipped, a great boon has been given to the patients who attend for treatment. The cost of the new building was £5545 and of this amount the sum of £4200 has been paid, leaving a debt of £1345. Towards the debt the governors have in hand £728. This institution offers to such persons as are able to pay, wholly or partially, the advantages of hospital treatment and nursing with, as far as possible, the comfort and privacy of a home. Patients may be attended by their own medical advisers. Out-patients are referred to medical practitioners in the neighbourhood before hospital treatment is given. The report contains an address reprinted from THE LANCET of Dec. 14th, 1901, p. 1654, on a Model Hospital, which was delivered at the opening of the new Victoria wing for out-patients on Dec. 11th, 1901, by Mr. Thomas Bryant.

DONATIONS AND BEQUESTS TO HOSPITALS.—Mrs. Disney Thorp of Cheltenham has bequeathed £5000 to Cheltenham General Hospital and £1000 to the Leeds Infirmary.—Mr. Frederick Sigismund Schwann of Wimbledon has by his will bequeathed £100 to University College Hospital.—Mr. Frederick Flood of Denfield, Dorking, has by his will bequeathed £3000 on deposit with Messrs. Thomas Wood and Co., of the Old Bank, Dorking, in trust for the Dorking Cottage Hospital and other charities.—By the will of Mrs. Sarah Leetham, of South Kensington, the sum of £100 is left to the East Sussex Hospital, Hastings, and to the Hospital for Sick Children, Hull.—The Royal Free Hospital has received a donation of £100 from the Clothworkers' Company, which has also voted a donation of £50 to the City Orthopædic Hospital.—Lord Eldon has given £50 and Mrs. Elizabeth Campbell £50 to the funds of the City Orthopædic Hospital.—Under the will of Miss Margaret Ann Lachlan of Kensington-gardens the Royal Home for Incurables, Streatham, receives £500; the Surgical Aid Society £200; and the Royal London Ophthalmic Hospital £100.

CHILDHOOD SOCIETY.—At the annual meeting of the Childhood Society for the Scientific Study of the Mental and Physical Condition of Children, held on March 19th, Earl Egerton of Tatton was re-elected president and Mr. R. B. Martin, M.P., was re-elected treasurer. The council's report for 1901 gives the full text of a memorial submitted by the president to the Duke of Devonshire, President of the Committee of the Privy Council on Education. This memorial embodies several "conclusions," of which the principal are as follows: (1) of the school-children observed about 1 per cent. are either physically or mentally deficient to a marked extent; (2) special separate classes for such defective children should be formed in the area of every educational authority in the interest of the children themselves, of others, and of the country at large; (3) instruction in the peculiarities of, and special training for, such children should be given to all the teachers; and (4) the method of education should be such as would lead to the elimination of a tendency to mental defects, especially those of a nervous origin, as otherwise the school life may tend rather to the accentuation of such defects. The memorial goes on to recommend (1) that a scientific commission of inquiry should be appointed by the Government for the purpose of determining the conditions of portions of the school population as to their mental and their physical power and of ascertaining the numbers of such as are of imperfect development together with the possible causes of such defects; (2) that the Act of 1899, Elementary Education (Defective and Epileptic Children) should be made compulsory; and (3) that scientific experts should be appointed to assist the Board of Education with regard to the means to be adopted for the education of children requiring special care. The first volume of the Transactions of the society is being issued this year; it contains a portrait and memoir of the late Sir Douglas Galton together with a variety of papers on subjects connected with the work of the society. It may be obtained at the Parkes Museum, Margaret-street, London, W.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, APRIL 10TH.

The Small-pox Hospital Ships in the Thames.

Colonel TUFNELL asked the President of the Local Government Board if his attention had been drawn to the resolution unanimously passed by the Essex County Council against the use of the hospital ships for small-pox cases and urging (if they must be retained) that they should be used only for convalescent cases, and what steps he proposed to take in the matter.—Mr. GRANT LAWSON, on behalf of Mr. LONG, replied: I understand that the Essex County Council has passed a resolution on this subject. The number of small-pox cases under treatment is still very large, and, as I stated in reply to a question by my hon. and gallant friend in January last, I do not propose to interfere with the discretion of the managers of the Metropolitan Asylums District as to the use of the hospital ships. The managers are endeavouring to provide adequate hospital accommodation on the land, but I cannot at present say that it will be found practicable to restrict the use of the ships to convalescent cases only.

FRIDAY, APRIL 11TH.

Medical Examination of Yeomanry Recruits.

Sir ELLIOTT LEES asked the Secretary of State for War whether his attention had been directed to a new attestation form (Army Form E. 595) for yeomanry recruits issued to home yeomanry regiments, in which a certificate of medical examination was required in the form set out; whether the only persons allowed by the War Office medically to examine recruits for the home yeomanry were all medical officers and civil practitioners authorised to examine recruits and medical officers of regiments of Imperial Yeomanry in Great Britain; whether it had been brought to his notice that in agricultural counties this regulation either entailed on recruits living remote from an authorised medical examiner loss of time and expense in travelling or similar loss to medical officers of yeomanry regiments who were civil practitioners; and whether, with the view of preventing detriment to recruiting, he would sanction the medical examination of recruits for the Imperial Yeomanry in Great Britain by any resident civil practitioner at places where an officer qualified under the regulation mentioned was not available, or would he consider the advisability of compensating the recruits and yeomanry medical officers for their losses and expenses.—Lord STANLEY, for Mr. BRODRICK, replied: It rests with the general officer commanding and the principal medical officer in each command to make the necessary arrangements for the examination of yeomanry recruits. To meet the special circumstances of the yeomanry extra civil medical practitioners can be appointed when necessary, the expenses being recovered under the conditions of paragraph 483 of the Militia Regulations

MONDAY, APRIL 14TH.

Typhoid Inoculation Among the Troops.

Captain NORTON asked the Secretary of State for War if he could state whether the report on the results of anti-typhoid inoculation had been received, and if so would he say whether it showed a diminution in mortality in inoculated persons attacked by the disease as compared with those uninoculated; whether it showed a diminished evidence of the disease in inoculated persons; and whether the full report would now be laid upon the table.—Lord STANLEY, for Mr. BRODRICK, replied: The report has been received. It deals with only 4138 cases and the aggregate results show a mortality of 8·2 per cent. in inoculated persons as against 15·1 per cent. in uninoculated persons. The report, however does not appear sufficiently conclusive in itself and it seems expedient to obtain further statistics from the admission and discharge books before publishing it.

Medical Certificates for the Post Office Service.

Mr. JAMES O'CONNOR asked the Secretary to the Treasury, as representing the Postmaster-General, if he would explain why sub-office rural postmen who were not allowed free medical attendance were compelled to furnish the department with a weekly medical certificate when they were on the sick-list at their own cost, and whether the department would dispense with weekly certificates in cases where the men's illness was known to be of several weeks' duration; also whether the department would see its way to refund to the men the cost of these certificates.—Mr. AUSTEN CHAMBERLAIN replied: All servants of the department are required to furnish weekly certificates when absent through illness and at places where there is no medical officer attached to the Post Office the certificate must be obtained from the patient's own medical adviser. The Postmaster-General is not prepared to alter the rule which requires medical certificates to be furnished nor can he undertake to refund the cost of them to those officers who are obliged to obtain them at their own expense.

Deaths from Plague in the Punjab.

Mr. CAINE asked the Secretary of State for India whether he could state how many deaths from plague had occurred daily in the Punjab; and whether the recommendations of the Plague Commission with regard to securing the coöperation of the people in administering plague measures which were followed in the Bombay Presidency were being adopted in the Punjab.—Lord GEORGE HAMILTON replied: I receive no daily returns of plague deaths. The telegraphic reports are for periods of four weeks and these are subsequently supplemented by certain weekly returns and details. The number of deaths from plague in the Punjab since the autumn of 1901 have, I regret to say, greatly increased and are as follows—viz.: for the four weeks ending Jan. 18th, 1902, 9438; for the four weeks ending Feb. 15th, 1902, 16,784; and for the four weeks ending March 15th, 1902, 42,788. No later reports have yet been received. Regulations enjoining measures based on the recommendations of the Plague Commission and designed to avoid coercion and to attract the coöperation of the people as much as possible have been adopted and a specially qualified medical officer has been deputed to supervise the preventive arrangements.

The Budget.

The CHANCELLOR of the EXCHEQUER presented his annual Budget at this sitting. On the basis of existing taxation it showed a deficit of £45,500,000. To meet this deficit the Chancellor of the Exchequer proposed to suspend the sinking fund, thus accounting for £4,500,000; to add one penny to the income tax, estimated to produce £2,000,000; to increase the stamp for cheques and dividend warrants from one penny to twopence, estimated to produce £500,000; to revive the old registration duty on all imported corn and grain and flour and meal, estimated to produce £2,650,000; to borrow by special loan £32,000,000; and to draw on exchequer balances to the extent of £5,500,000. The registration duty was repealed by Mr. Lowe in 1869. The proposal now is to revive it in the form of an impost of threepence per cwt. on corn and grain, and fivepence per cwt. on flour and meal. According to the statement of the Chancellor of the Exchequer this tax will represent a small fraction of a farthing on each two-pound loaf.

TUESDAY, APRIL 15TH.

The Sale of Patent Medicines.

Mr. LAYLAND-BARRATT asked the Chancellor of the Exchequer whether, in cases where penalties under 42 George 3, c. 56, for selling medicines without affixing the stamps in payment of duty required under that Act were not recovered by process of law, but were claimed by, and paid direct to, the Inland Revenue authorities, the informer was entitled to any portion of such penalties; and, if so, to what portion; and whether, if the informer was a Government official, he was entitled to a similar or any portion of the penalties.—The CHANCELLOR of the EXCHEQUER replied: The Board of Inland Revenue is empowered to grant rewards to informers, whether Government officials or otherwise, in cases of the kind referred to. The amount awarded depends upon the circumstances of each individual case.

The Ventilation of the House.

The following Members were nominated as a Select Committee to inquire into the ventilation of the House—viz., Mr. Akers-Douglas, Mr. John Dillon, Dr. Farquharson, Sir Michael Foster, Mr. Goddard, Mr. John Penn, and Sir John Batty Tuke.

Cremation Bill.

This Bill, which has passed through all its stages in the House of Lords, was read a second time and on the motion of Sir WALTER FOSTER was referred to the Grand Committee on Law.

ROYAL COMMISSION ON ARSENICAL POISONING.

THE Royal Commission on Arsenical Poisoning held a meeting for the examination of witnesses on April 11th in the Westminster Palace Hotel, Victoria-street, S.W. The Commissioners present were Lord Kelvin (chairman), who presided, Sir William Church, Sir William Hart-Dyke, M.P., Professor Thorpe, and Dr. B. A. Whitelegge, with Dr. G. S. Buchanan (secretary to the Commission). Four witnesses were examined, all of them from Halifax, and their evidence had reference, more or less direct, to the recent outbreak of arsenical poisoning in that town.

Mr. G. S. THOMSON, representing Whittaker's Brewery, Halifax, was the first witness and in the course of his examination he took exception to certain statements made in the report with reference to the outbreak by Mr. Hammond Smith, assistant commissioner. He denied that a particular patient had been a regular customer at a certain inn owned by the brewery; the man had only called at the inn a few times. He also disputed the accuracy of a statement with regard to the source of certain invert sugar. Witness explained to the Commission the system of malting adopted by the brewery. Their kiln, he said, had three floors for the accommodation of grain and below the first of these floors was a hot chamber into which, in the first instance, the fumes of the fuel entered. When the malt was finished—that was to say, after it had been on the bottom floor—it was screened and brushed as a precaution against the presence of arsenic. It was tested periodically for arsenic and once or twice before it had been screened and brushed slight traces had been found. The hot chamber, or "dust chamber," as it was usually called, was cleared out twice a year. The dust collected had been analysed and traces of arsenic had been found in it. Since the Halifax scare they had been using better fuel for malting—oven coke and anthracite coal. Prior to the Manchester scare they did not have the beer analysed, but subsequently to that time and prior to the Halifax scare they had samples analysed practically every week. The reports which they received had always been good. In one or two cases there had been found faint traces of arsenic in the malt and in the beer but not in the materials. Since the Halifax scare they had had the beer analysed by more than one analyst. The analyses varied a great deal; in fact, there were scarcely two which agreed. They had a sample of finished beer analysed by three analysts who brought out three distinct results. Brewers were very much dissatisfied with this state of things and, indeed, their faith in analysis had been greatly shaken. They would like to see one standard or method of analysis applied in every case. Up to January, 1902, about 80 per cent. of the fuel they used was Halifax gas coke. The anthracite coal which they now used had been analysed and had showed no trace of arsenic. After brushing and screening the malt it had been found free from contamination. No doubt arsenic might be carried up the flue for it had been found adhering to the girders at the top. They wished to keep in line with other brewers and would not think of reverting to gas coke and in the light of present information it would be wrong to omit brushing and screening of the malt.

Dr. J. T. NEECH, medical officer of health of the Borough of Halifax, gave the Commission an account of 13 cases of arsenical poisoning which had come to his knowledge, all of which he attributed to the presence of arsenic in beer. In his opinion, one-fiftieth of a grain per gallon would be dangerous and as a matter of fact he did not think that more than one-hundredth of a grain ought to be allowed. In the case of persons who were susceptible to poisoning by arsenic anything between one-fiftieth and one-hundredth of a grain per gallon would affect health materially. He was not an analytical chemist but he had one or two ideas about the varying results of analyses of the same beer. For instance, yeast took up a considerable amount of arsenic and if a sample were taken from near the bottom of a cask there might be more yeast cells in it than in the beer at the top of the cask and consequently there would be more risk of arsenic. Another point was that analysts had been using different tests. Speaking as a medical man he had no doubt that the symptoms in these Halifax cases were the symptoms of arsenical poisoning and his view was that greater care should be taken in regard to the fuel used in the preparation of the malt. During the period of the Manchester scare he saw one or two cases of arsenical poisoning in the workhouse and he also heard that there were one or two cases in private practice but the doctors at that time refused to give him the names and consequently he was unable to see the cases. Prior to the Manchester scare he had no reason to believe that there were cases of arsenical poisoning in Halifax. At the brewery of the Messrs. Webster in Halifax he had had an experimental kiln erected. In the first experiment ordinary gas coke was used and the malt was placed upon the kiln in a very wet condition. The unbrushed malt was found to contain $\frac{1}{111}$th of a grain of arsenic per pound and the brushed malt $\frac{1}{111}$th of a grain per pound. In the second experiment the malt was hand dried and put on the kiln practically dry, and as in the first experiment ordinary gas coke was used. The unbrushed malt was found to contain $\frac{1}{10}$th of a grain of arsenic per pound and the brushed malt $\frac{1}{12}$th of a grain per pound. The next two experiments were made with gas coke which had been arsenicated. With wet malt unbrushed the analysis gave one-ninth of a grain of arsenic per pound, and with the same malt brushed one-eighth of a grain per pound. With dry malt unbrushed it gave $\frac{1}{7}$th of a grain per pound and with the same malt brushed it gave $\frac{1}{8}$th of a grain per pound. The fumes of the coke passed from an empty chamber direct to the malt. In the cases of the brushed malt of No. 2 experiment and of the brushed malt of No. 4 experiment he removed the husk of a small quantity of each malt and submitted it for analysis. In the one case the husk gave $\frac{1}{14}$th of a grain of arsenic per pound, and in the other $\frac{1}{15}$th of a grain, these figures showing that the arsenic was chiefly deposited on the husk. He had expected the wet malt to take up more arsenic than the dry but in the first two experiments made with ordinary coke the dry malt took up rather more arsenic than the wet, but of course there might be more arsenic in one lot of coke than in another though both were taken from the same bulk. In the second pair of experiments he thought the coke was practically the same and the dry malt took up only one-half the amount of arsenic taken up by the wet. The wet malt when brushed seemed to show more arsenic than when unbrushed but the dry malt rather less. Analyses were taken of the tongues in the third and fourth experiments and gave $\frac{1}{7}$ths of a grain per pound and $\frac{1}{8}$th of a grain per pound respectively. In the one case the malt was very wet when put on the kiln and in the other it was dry.

By Professor THORPE: No steps were taken to see whether the barley was free from arsenic but the same barley was used in all the experiments.

By Sir WILLIAM CHURCH: The experiments were few in number and he did not want to dogmatise upon them, but they seemed to indicate that brushing was not so great a safeguard as some brewers imagined.

By Dr. WHITELEGGE: Prior to the Manchester scare he had never taken samples of beer for analysis, but in the light of what had occurred since then he thought they should be taken as a matter of routine. As soon as he became aware of the cases in Halifax, he caused samples of beer to be taken for analysis. The first lot of six samples were submitted to the public analyst of Halifax who reported them to be absolutely free from arsenic. Other samples were submitted to Mr. Richardson of Bradford who reported the presence of arsenic in them. He doubted whether he had power under the Sale of Food and Drugs Act to enter a brewery and to take samples of the malt, but no question of this kind had arisen as he had received every facility from the local brewers.

Mr. F. BUCKLEY, managing director of Messrs. Webster's brewery, Halifax, said that since November, 1901, they had had all their materials analysed before being used in the brewery and all the beers before being sent out to customers. He assured the Commission that the brewers of Halifax had done everything in their power to prevent contamination. In the case of his own firm they had put up a new kiln with all the latest improvements. Brewers would like to see some standard of analysis set up because in the present state of things they found very considerable variations in the results reported. In one case the Inland Revenue authorities sent a sample of beer to Somerset House and it was reported to contain $\frac{1}{10}$th of a grain of arsenic per gallon and when a sample of the identical beer was sent to Mr. Richardson of Bradford he reported it as containing $\frac{1}{14}$th of a grain. Some brewers were using lime as a protection against arsenic and he felt sure that all of them would be happy to fall in with any suggestion which might be made by the Commission. There could be no doubt that the great bulk of the beer sent out in the Halifax district in 1901 was made with malt in the preparation of which gas coke had been used. He considered screening and brushing to be a great safeguard and it was much resorted to now that the risk of arsenic was known. His firm used to employ gas coke, then they tried oven coke, and now they only used anthracite coal.

Mr. WORSICK, maltster, Alland, near Halifax, was the last witness examined. He said that when the Manchester scare occurred it was thought that all the danger arose from the use of glucose, but since then it had been discovered that the malt was liable to contain arsenic and greater care had been taken in the preparation of malt. In his own case he had improved his methods and machinery and for fuel used anthracite coal. There was now a general opinion in the trade that gas coke was unsuitable for malting.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week, for publication in the next number.

BJORNSON, O., M.D., C.M. Manitoba, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BRANDSON, B. J., M.D., C.M. Manitoba, has been appointed Clinical Assistant to the Chelsea Hospital for Women.

BUTLER, Hon. G. H., M.R.C.S., L.R.C.P. Lond., has been appointed Honorary Medical Officer to Hobart Hospital, Tasmania.

COLLINS, J. C., M.B. T.C.D., has been appointed Senior Medical Officer at the Auckland Hospital, New Zealand.

DASHWOOD, HOWARD A., B.A. Cantab., M.D. Brux., M.R.C.S., L.R.C.P. Lond., has been appointed Public Vaccinator for the Parish of Hampton Hill by the Kingston Board of Guardians.

DODS, JOSEPH E., M.B., B.S. Edin., has been appointed Acting Medical Officer, Brisbane, Queensland, in connexion with the Diamantina State Children during the absence on leave of Mr. K. I. O'Doherty, F.R.C.S. Irel.

DUNLOP, JAMES CRAUFURD, M.D. Edin., has been appointed Inspector of Certified Inebriate Reformatories in Scotland under the provisions of the Inebriates Acts, 1879 to 1900; and also Inspector of Retreats licensed under these Acts in Scotland.

HARVEY, FRANK, M.R.C.S., L.S.A., has been appointed Medical Officer of the Padstow (Cornwall) Port Sanitary Authority.

HORNE, MAYNARD, M.A., M.B., B.C. Cantab., M.R.C.S., L.R.C.P. Lond., has been appointed Assistant Anæsthetist to the National Orthopædic Hospital, Great Portland-street, W.

HUNTER, JESSIE S. B., M.B. Glasg., has been appointed Assistant Medical Officer to the Lawn Hospital for the Insane, Lincoln, vice Mr. K. D. Cooper, resigned.

JARDINE, ROBERT, M.D. Edin., M.R.C.S., F.F.P.S. Glasg., F.R.S.E., has been re-appointed Obstetric Physician to the Glasgow Maternity Hospital.

KELLY, T. W. G., M.D. T.C.D., has been re-appointed Medical Officer to the Market Bosworth Rural District Council.

LARWILL, JOHN, L.R.C.P. & S. Edin., has been appointed Medical Officer at Boonal, Queensland, vice JAS. H. Finemore, L.R.C.P. Edin.

LOGAN, R. R. W., M.R.C.S., L.S.A., has been appointed Certifying Surgeon under the Factory Acts for the Ashby-de-la-Zouch District of Leicestershire.

LOVE, WILTON WOOD RUSSELL, M.B. Edin., has been appointed Deputy Commissioner of Public Health for Queensland during the absence of the Commissioner of Public Health.

MATSON, J. A., B.A., M.D. Dub., L.R.C.P. Irel., has been appointed Assistant Physician to the Richmond, Whitworth, and Harwicke Hospital.

PURNELL, RICHARD, M.D. St. And., M.R.C.S., L.S.A., has been appointed Medical Officer of Health of Wells (Somerset) for three years.

SODHI, BABA M. SINGH, M.B., Ch.B. Edin., has been appointed Assistant Medical Officer at the Borough Asylum, Portsmouth.

STEVENSON, ROBERT, M.B., M.S. Glasg., has been appointed District Surgeon of Prince Albert, Cape Colony, South Africa.

TAYLOR, F. E., M.B., Ch.B. Vict., M.A., M.Sc., M.R.C.S., L.R.C.P. Lond., has been appointed Pathologist to the Chelsea Hospital for Women.

TUKE, G. M., M.R.C.S., has been re-appointed Medical Officer of Health to the Hollingbourne Rural District Council.

TURNER, E. R., M.B., M.S. Aberd., has been appointed Medical Officer and Vaccination Officer for Kinnellar.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BIGGLESWADE RURAL DISTRICT COUNCIL.—Medical Officer of Isolation Hospital and Small-pox Hospital. Salary £60 a year, additional fee of £5 5s. a week if and when patients are treated in the small-pox hospital.

BRENTFORD UNION WORKHOUSE AND SCHOOLS, Isleworth.—Assistant Medical Superintendent, unmarried. Salary £120 per annum, with apartments, rations, washing, &c.

BRIDGWATER INFIRMARY.—House Surgeon. Salary £80 a year, with board and residence.

BUCKINGHAMSHIRE ROYAL HOSPITAL, Aylesbury.—Resident Surgeon, unmarried. Salary £80, increasing to £100, with board and apartments.

CAMBRIDGESHIRE, ETC., LUNATIC ASYLUM, Fulbourn, near Cambridge.—Assistant Medical Officer (unmarried). Salary £150 per annum, with board, lodging, and attendance.

CANCER HOSPITAL, Fulham-road, S.W.—Junior House Surgeon. Salary at rate of £70 per annum, with board and residence.

CARMARTHENSHIRE INFIRMARY.—Resident Medical Officer, unmarried. Salary £100 per annum, all found.

CENTRAL LONDON SICK ASYLUMS at Cleveland-street or Hendon.—First Assistant Medical Officer. Salary £120 per annum, with board and residence.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Registrar. Honorarium of 20 guineas per annum.

CITY OF NOTTINGHAM PARISH INFIRMARY.—Assistant Medical Officer. Salary £160 per annum and rooms.

CORNWALL COUNTY ASYLUM, Bodmin.—Junior Assistant Medical Officer, unmarried. Salary £120, rising to £150, with board, apartments, &c.

CUMBERLAND AND WESTMORLAND ASYLUM, Garlands, Carlisle.—Junior Assistant Medical Officer, unmarried. Salary £130, rising to £150 per annum, with board, lodging, &c.

DUDLEY, THE GUEST HOSPITAL.—Assistant House Surgeon for six months. Salary £40 per annum, with residence, board, and washing.

DURBAN, NATAL, SOUTH AFRICA.—Medical Officer of Health. Salary at rate of £750 per annum.

DURHAM COUNTY ASYLUM.—Junior Assistant Medical Officer wanted. Salary £150, rising to £180 a year, with apartments, board, laundry, and attendance.

DURHAM COUNTY HOSPITAL.—House Surgeon. Also Assistant House Surgeon. Salary of Senior £120, of Junior £65, with board and lodging in each case.

FISHERTON ASYLUM.—Assistant Medical Officer, unmarried. Salary £150 per annum, with board, lodging, and washing.

GREENWICH UNION INFIRMARY.—Junior Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, washing, and attendance. Also Second Assistant Medical Officer, unmarried. Salary £100 per annum, with board, lodging, washing, and attendance.

HOSPITAL FOR DISEASES OF THE THROAT, Golden-square, W.—Senior Clinical Assistant.

HOSPITAL FOR SICK CHILDREN, Great Ormond street, London, W.C.—House Surgeon, unmarried, for six months. Salary £20, washing allowance £2 10s., with board and residence. Also Medical Registrar. Honorarium 50 guineas a year.

INDIAN MEDICAL SERVICE, India Office.—Not fewer than Twelve Commissions.

KENT AND CANTERBURY HOSPITAL.—Surgeon.

LEEDS GENERAL INFIRMARY.—House Physician for six months. Board, lodging, and washing provided.

LONDON TEMPERANCE HOSPITAL, N.W.—Assistant Resident Medical Officer for six months. Honorarium at rate of 50 guineas per annum, with board and residence.

MANCHESTER SOUTHERN AND MATERNITY HOSPITAL.—Resident House Surgeon. Honorarium £50 per annum and board.

MEDICAL DEPARTMENT OF THE NAVY, Admiralty, Northumberland-avenue, W.C.—Not less than Thirty Commissions as Surgeons.

METROPOLITAN ASYLUMS BOARD ASYLUM, Caterham, Surrey.—Assistant Medical Officer, unmarried. Salary £150 per annum, rising to £170, with rations, lodging, attendance, and washing.

PADDINGTON GREEN CHILDREN'S HOSPITAL, London, W.—House Physician, also House Surgeon, both for six months. Salary at rate of 50 guineas a year, with board and residence.

PORTSMOUTH ROYAL HOSPITAL.—Assistant House Surgeon. Salary £50 per annum, with board and residence.

ROYAL FREE HOSPITAL, Gray's Inn-road, W.C.—Casualty House Surgeon for six months. Board, &c., are provided.

ROYAL NATIONAL MISSION TO DEEP SEA FISHERMEN, 181, Queen Victoria-street, E.C.—Surgeon on Mission Hospital Vessel. Salary £4 a week.

STOCKPORT INFIRMARY.—Assistant House and Visiting Surgeon. Salary £80 per annum, with residence, board, and laundry.

TAUNTON AND SOMERSET HOSPITAL.—Assistant House Surgeon for six months. Salary at rate of £60 per annum, with board, lodging, and laundry.

TEIGNMOUTH HOSPITAL, S. Devon.—House Surgeon. Salary £70 a year, with board, lodging, and washing.

WALLASEY DISPENSARY AND VICTORIA CENTRAL HOSPITAL, Liscard.—House Surgeon, unmarried. Salary £100, with board and residence.

WESTERN GENERAL DISPENSARY, Marylebone-road, N.W.—Second House Surgeon, unmarried. Salary £80 a year, with board, residence, and laundry.

WESTMINSTER HOSPITAL, Broad Sanctuary, S.W.—Surgical Registrar. Salary £50 per annum.

WEST NORFOLK AND LYNN HOSPITAL, King's Lynn.—House Surgeon. Salary £100 per annum, with board, residence, and washing.

Births, Marriages, and Deaths.

BIRTHS.

SELLORS.—On April 7th, at 14, Emmanuel-road, Balham, the wife of T. B. Sellors, L.R.C.S., L.S.A., of a son.

SMELT.—On April 10th, at Holloway-road, Islington, N., the wife of C. A. Casterton Smelt, M.B., C.M. Edin., of a son.

THOMSON.—On April 14th, at 14, Coates-crescent, Edinburgh, the wife of John Thomson, M.D., F.R.C.P. Edin., of a daughter.

MARRIAGES.

DAY—COCHRANE.—At St. Peter's Church, Dublin, by the Rev. S. Robinson, M.A., Lieutenant-Colonel J. D. Day, late R.A.M.C., son of the late A. M. Day, Dublin to Margaret Louisa, daughter of Sir Henry Cochrane, D.L., Woodbrook co. Dublin.

HARDY—BALL.—On April 5th, at Isipingo, Natal, Leonard Ernest Hardy, M.B. Edin., to Sarah Elizabeth Ball.

DEATHS.

FELL.—On April 2nd, at Bibianaha, Ashantee, in his thirty-first year, William George Fell, M.B., B.S. Durham, eldest son of John Fell, 5, Eslington-road, Newcastle-on-Tyne.

MACGREGOR.—Suddenly, on April 12th, at 8, Queen-street, Berkeley-square, London, Alexander Macgregor, M.D. Aberd., M.R.C.P. Lond.

MAYO.—On April 7th, at Spitalgate House, Grantham, Eleanor, wife of A. C. Mayo, St. George's-park House, Great Yarmouth, aged 59 years.

WILLIAMS.—On April 10th, at Hill House, Clay Cross, in his thirty-ninth year, Evan James Williams, L.R.C.P., M.R.C.S., youngest son of the late James Williams, Esq., J.P., Cardigan.

N.B.—A fee of 2s. is charged for the insertion of Notices of Births, Marriages, and Deaths

Notes, Short Comments, and Answers to Correspondents.

MEDICINE IN ANTIQUITY.

ONCE more we have to announce the discovery of a Roman oculist's seal, and again the relic hails from ancient Gaul, it having been found at Saintes. A description of it may be read in the *Revue des Etudes Grecques*, but as the summary there is very short and as that journal may not be easily available we give the text in full and a few words of explanation for those interested in such subjects. The inscription upon the signet reads, "Val Philerotis Italic. ad Diathes(is). Val Philerotis Cyenivm Lene." The owner's name, Valerius Philerotis is new, but the remedies which this record shows that he specially approved and had therefore engraved upon his seal are similar to those previously found upon such objects. What were the ingredients of italicum is a mystery. It has only once been read upon a seal and is untraceable in any extant classical medical author. The seal upon which it has previously been found was preserved at Contines and belonged to one Marcus Julius Sabinus, who used it "ad cicatrices," that is for disease of the pupils and transparent cornea. It may have been for the same complaint that Philerotis applied it, because "diathesis" really was merely a broad term for any morbid ailment, particularly, however, of the eyes, and is a word frequently used by Galen in this sense and once or twice by both Marcellus and Scribonius. It occurs about twenty times upon oculist's seals. "Cyenium," "Cyeni"(on), "Cy"(cnarium), or "Cyknaria," has been deciphered upon five seals. Three of these omit the malady for which it was applied; the other two state that it was a cure "ad impetum," that is to say, incipient ophthalmia. Cyenium may mean simply white, the colour of a swan. Further information may be found in Galen, Paulus Aegineta, or Oribasius. One seal gives a collyrium "Cynon," which may be an error of the engraver for cyenion. The seal states that this cynon was applied "ad claritatem," which indicates its supposed effect. "Lene" simply means sweet or pleasant and does not present any addition to the Pharmacopœia. Aetius speaks of it several times.

DIFFICULTIES UNDER THE NOTIFICATION ACT.

ON April 3rd Mr. A. A. Rostant of Tottenham was summoned at the instance of the Edmonton Urban District Council for wilfully aiding and abetting a man named Wood in exposing himself while suffering from small-pox. The evidence showed the following facts. Mr. Rostant said that he first made up his mind that Wood was suffering from small-pox on Jan. 16th. He wrote out a notification and told Wood to drop it into the letter-box of the medical officer of health, Dr. C. H. Adamson. He could not remember whether he told Wood that he had small-pox. Wood said that he went to Dr. Adamson's surgery and sat down to wait. Dr. Adamson said that he found Wood sitting in the surgery and saw that he was suffering from small-pox. He wrote ". r. Rostant. He called Wood out of the surgery and told him to go straight home. Wood further said that when he got home he remained there for a fortnight seeing no medical man. He was then removed to the hospital. The sanitary inspectors called. His wife and children were living in the house and the wife looked after him. Eventually the magistrates, though agreeing that it was quite right to bring the case into court, did not convict. Mr. Rostant informs us that he never received the letter from Dr. Adamson, and altogether it seems to us that there was great carelessness. That a patient suffering from small-pox can be sent home and left without medical attendance for a fortnight is most unsatisfactory.

WANTED—A HOME.

To the Editors of THE LANCET.

SIRS,—Can any of your readers kindly inform me if there is an institute where a female deaf mute, aged 16 years, could be educated in lip reading and also in some trade or occupation, and the probable cost and the length of time this would entail?

I am, Sirs, yours faithfully,

F. W. GUNN, M.D.Durh.

Wiklrington, Northumberland, April 16th, 1902.

THE HABIT OF TIPPLING.

A CORRESPONDENT who writes above the frank signature "Dipsomaniac" tells a neat story in reference to the rapid growth of the habit of tippling which may develop in unsuspecting subjects. Two elderly ladies, he says, were surprised by a visitor in the act of drinking neat brandy. Upon his expressing some surprise they said that brandy had been recommended to them as a capital preventive against cholera and that first they took it with water and then they took it without water, and now they took it like water.

A MEDDLING CLERGYMAN.

Fairplay writes: "A is treating a man who is suffering from acute bronchitis. His condition becomes serious and a consultation is offered by A to the relations who refuse it, saying that they are satisfied that all possible has been done and that they want no other advice than they have had. A day after this the parish clergyman, who is calling daily, suggests the calling in of his intimate friend, Dr. B, another practitioner in the town, and states that he will pay the fee. (This to people who can well afford a fee.) This offer is refused and he is plainly told that the patient's friends desire no interference in that direction. The next day he again tries to persuade them to call in Dr. B without result. Has A a grievance?"

*** We speak on the facts as "Fairplay" presents them. He has a right to consider the clergyman officious. We recommend him to tell B that the instant his patient requires B's help, it will be asked for—and not before.—ED. L.

PROPOSED MEMORIAL TO THE LATE SURGEON-GENERAL W. NASH, A.M.S.

THE following subscriptions have been received since the last notification:—

	£	s.	d.
Lieutenant-Colonel U. A. Jennings	0	10	0
Lieutenant-Colonel E. F. Boult	0	10	6
Major A. Wright, R.A.M.C.	0	10	0
Lieutenant-Colonel W. F. Ruttledge, A.M.S. (retired)	0	10	0
Major Jérome, R.A.M.C.	0	5	0
Major A. Dodd, R.A.M.C.	0	5	0
Major M. T. Yarr, R.A.M.C.	0	5	0
Lieut. Fletcher, R.A.M.C.	0	2	6
Lieutenant P. S. Lelean, R.A.M.C ...	0	2	6
Major G. F. Alexander, R.A.M.C.	0	5	0
Brigade-Surgeon J. McKinnon	1	1	0
Colonel A. T. Sloggett, C.M.G., R.A.M.C. ...	1	0	0
Brig.-Surg.-Lieut.-Col. C. E. Harrison	1	1	0
Lieutenant-Colonel B. M. Blennerhassett ...	2	2	0
Lieutenant-Colonel T. B. A. Tuckey, R.A.M.C.	0	10	0
An old Friend...	1	1	0
Lieutenant-Colonel Andrew Duncan... ...	2	2	0
Lieutenant-Colonel E. J. Fairland, A.M.S. (retired)...	1	1	0
Colonel W. L. Gubbins, R.A.M.C.	1	1	0
Surgeon-General T. O'Farrell, A.M.S. ...	1	1	0
Lieutenant-Colonel L. W. Swabey, R.A.M.C.	0	10	0
Major D. V. O'Connell, R.A.M.C.	0	5	0
Major A. de C. Scanlan, R.A.M.C.	0	5	0
Lieutenant J. S. Bostock, R.A.M.C.	0	2	6
Lieutenant-Colonel W. W. Kenny R.A.M.C.	0	10	0
Lieutenant-Colonel J. D. Brodie, A.M.S.	0	10	0
Captain H. W. O'Reilly, R.A.M.C.	0	5	0
Previously acknowledged in THE LANCET	36	16	6
Total	£54	9	6

THE CRAYON ANTI-BUÉE.

MESSRS. HAWKSLEY, of 357, Oxford-street, W., have forwarded to us a specimen of the crayon anti-buée which was described in our issue of March 1st, p. 589, by Dr. Walker Downie. Messrs. Hawksley inform us that the article is patented and sells for 2*s*. The use of the crayon undoubtedly does prevent the deposition of moisture upon laryngeal mirrors and the like. But soap does just as well when not made up into a crayon, as a correspondent pointed out in our issue of March 8th, p. 699, and a whole cake of soap can be bought for 6*d*.

Dubitans.—1. The propriety of paying such visits depends upon the custom of the neighbourhood rather than upon the seniority of the medical man. It would be well if our correspondent consulted a prominent local practitioner as to the course he should adopt. 2. It is, in our opinion, incorrect for the holder of the diplomas in question to prefix the title of "Dr." to his name on his door-plate and visiting-cards.

E.D.—In ordinary circumstances the medical officer of health is not responsible for the actions of the sanitary inspector. The sanitary inspector is responsible to the sanitary authority who also appoint the medical officer of health.

Spes.—We have no knowledge of the treatment or remedy in question. If our correspondent will send, or cause to have sent, to us a sufficient quantity of the remedy we will analyse it.

M. A. R. should apply to the Director-General of the Army Medical Service, 18, Victoria-street, S.W. The examinations are usually held in February and August.

X. Y. Z.—The administrator of the anæsthetics should be paid by the medical man who has employed him.

ERRATUM.—In THE LANCET dated March 22nd, 1902, p. 835, an annotation appeared entitled "Light and Malaria." It was therein stated, in reference to the question how the parasite can be influenced by extreme temperatures, that "in the *American Journal of the Medical Sciences* for February Dr. A. F. A. King of New York puts forward an ingenious suggestion that the actual factor in question is the light, not the heat, of the sun," &c. Dr. A. F. A. King should have been described as of Washington, D.C., and not of New York.

During the week marked copies of the following newspapers have been received:—*Yorkshire Post, Cardiff Mail, Sussex Daily News, Colchester Gazette, Lincolnshire Chronicle, Lincolnshire Echo, Belfast News Letter, Birmingham Post, Aberdeen Press, Folkestone Telegraph, Brighton Gazette, Surrey Advertiser, Bristol Mercury, Dublin Express, Wiltshire Mirror, Bradford Observer, Morning Post, Essex Herald, Hereford Mercury, Daily Graphic, Sanitary Record, Local Government Chronicle, Mining Journal, Hertfordshire Mercury, Burton Chronicle, Lincolnshire Advertiser, &c.*

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Stewart's Instruments.)

THE LANCET Office, April 17th, 1902.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Rain-fall.	Solar Radiation Vacuo.	Maximum Temp. Shade.	Min. Temp.	Wet Bulb.	Dry Bulb.	Remarks at 8.30 A.M.
April 11	29·84	E.	...	80	50	37	40	43	Cloudy
,, 12	29·72	S.	0·06	83	52	41	42	43	Overcast
,, 13	29·85	S.W.	0·01	96	56	40	39	40	Cloudy
,, 14	29·97	S.E.	...	104	58	39	42	45	Hazy
,, 15	29·60	E.	0·02	82	60	45	49	50	Raining
,, 16	29·85	N.W.	...	80	61	46	47	49	Overcast
,, 17	29·89	S.W.	...	75	59	46	47	49	Foggy

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY (21st).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (2 P.M.), St. Mary's (2.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynæcological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.), City Orthopædic (4 P.M.), Gt. Northern Central (2.30 P.M.) West London (2.30 P.M.), London Throat (2 P.M.).

TUESDAY (22nd).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Royal Ear (3 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

WEDNESDAY (23rd).—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), King's College (2 P.M.), St. George's (Ophthalmic, 1 P.M.), St. Mary's (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Gt. Ormond-street (9.30 A.M.), Gt. Northern Central (2.30 P.M.), Westminster (2 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), Cancer (2 P.M.), Throat, Golden-square (9.30 A.M.).

THURSDAY (24th).—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (1.30 P.M.), St. Mary's (2.30 P.M.), Soho-square (2 P.M.), North-West London (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (Gynæcological, 2.30 P.M.), Metropolitan (2.30 P.M.), London Throat (2 P.M.), St. Mark's (2 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square (9.30 A.M.).

FRIDAY (25th).—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), St. Mary's (2 P.M.), Ophthalmic (10 A.M.), Cancer (2 P.M.), Chelsea (2 P.M.), Gt. Northern Central (2.30 P.M.). West London (2.30 P.M.), London Throat (2 P.M. and 6 P.M.), Samaritan (9.30 A.M. and 2.30 P.M.), Throat, Golden-square, (9.30 A.M.), City Orthopædic (2.30 P.M.).

SATURDAY (26th).—Royal Free (9 A.M. and 2 P.M.), London (2 P.M.) Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), University College (9.15 A.M.), Charing-cross (2 P.M.), St. George's (1 P.M.), St. Mary's (10 P.M.), London Throat (2 P.M.), Throat, Golden-square (9.30 A.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

SOCIETIES.

MONDAY (21st).—SOCIETY OF ARTS.—8 P.M. Mr. R. T. Glazebrook: Glass for Optical Instruments. (Cantor Lecture.)

TUESDAY (22nd).—ROYAL MEDICAL AND CHIRURGICAL SOCIETY (20, Hanover-square, W.).—8.30 P.M. Paper:—Dr. W. Ewart and Mr. A. S. Morley: The Possibility of Recovery from the Active Stage of Malignant Endocarditis (illustrated by cases and specimens). Adjourned Discussion on the paper by Dr. F. J. Poynton and Dr. A. Paine on a Contribution to the Study of Malignant Endocarditis.

WEDNESDAY (23rd).—SOCIETY OF ARTS.—8 P.M. Prof. S. P. Thompson: Opto-technics.

THURSDAY (24th).—DERMATOLOGICAL SOCIETY OF GREAT BRITAIN AND IRELAND (20, Hanover-square, W.).—5 P.M. Meeting.
HARVEIAN SOCIETY OF LONDON (Stafford Rooms, Titchborne-street, Edgware-road, W.).—8.30 P.M. Papers:—Mr. R. Johnson: Some Points in the Treatment of Tuberculous Disease of the Knee.—Dr. L. Guthrie: Congenital Hereditary Hæmaturia. Clinical Cases.

FRIDAY (25th).—CLINICAL SOCIETY OF LONDON (20, Hanover-square, W.).—8 P.M. Exhibition of Clinical Cases followed by Discussion. Patients will be in attendance from 8 P.M. to 9 P.M.

LECTURES, ADDRESSES, DEMONSTRATIONS, &c.

MONDAY (21st).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. A. Whitfield: Clinique. (Skin.)

TUESDAY (22nd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. H. Campbell: Clinique. (Medical.)

WEDNESDAY (23rd).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. J. Clarke: Clinique. (Surgical.)

THURSDAY (24th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Mr. Hutchinson: Clinique. (Surgical.)

FRIDAY (25th).—MEDICAL GRADUATES' COLLEGE AND POLYCLINIC (22, Chenies-street, W.C.).—4 P.M. Dr. StClair Thomson: Clinique. (Throat.)

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It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side of the paper only, AND WHEN ACCOMPANIED BY BLOCKS IT IS REQUESTED THAT THE NAME OF THE AUTHOR, AND IF POSSIBLE OF THE ARTICLE, SHOULD BE WRITTEN ON THE BLOCKS TO FACILITATE IDENTIFICATION.

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